



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD

CHICAGO, IL 60604-3590

EPA Region 5 Records Ctr.



308241

REPLY TO THE ATTENTION OF:

**DE-9J**

**AUG 31 2004**

**VIA E-MAIL AND**  
**FEDERAL EXPRESS DELIVERY**

Norman S. Johnson  
1400 Beltline Road #14  
Redding, California 96003

Re: Modified RCRA Facility Investigation Report and  
Interim Stabilization Measures Report  
U.S.S. Lead Refinery, Inc.  
U.S. EPA ID No. IND 047 030 226

Dear Mr. Johnson:

The United States Environmental Protection Agency (U.S. EPA) has reviewed the Draft Final USS Lead Modified RCRA Facility Investigation (MRFI) Report, dated March 1, 2004. The document was prepared and submitted by Geochemical Solutions on behalf of USS Lead Refinery, Inc. (USS Lead) pursuant to the requirements of the Administrative Order on Consent (AOC), Docket Number V-W-001-94 under the Resource Conservation and Recovery Act (RCRA). The on-site information from the MRFI is intended to complement the November 6, 2001, Draft Interim Stabilization Measures (ISM) and Implementation Report based on the U.S. EPA's January 11, 2002, comments and subsequent discussions between U.S. EPA and USS Lead. In addition, we would like to inform you that we have referred to the CERCLA program the component of the USS Lead project related to off-site contamination in nearby areas of residential, commercial or industrial land use. Below are the agency determinations on the MRFI and ISM Reports.

USS Lead has completed all requirements identified in Attachment II of the AOC, MODIFIED RFI Scope of Work. U.S. EPA hereby approves the MRFI Report based on compliance with the requirements from the AOC subject to the following condition:

001

USEPA will evaluate under CERCLA authority the information from the MRFI related to migration of contamination from the USS Lead facility to off-site areas of residential, commercial or industrial land use.

USS Lead has completed all requirements identified in Attachment I of the AOC, INTERIM STABILIZATION MEASURES Scope of Work. U.S. EPA hereby approves the ISM Report

Reference #78

based on compliance with the requirements from the AOC subject to the following condition:

IDEML will review and conduct an approval decision on the document entitled "CAMU Construction Quality Assurance Report, USS Lead Refinery, Inc.", dated June 28, 2004, pursuant to State closure and post-closure requirements.

Following the above compliance determinations, U.S. EPA has identified some remaining concerns regarding the presence of potential unacceptable exposures to human and ecological receptors on-site at the USS Lead facility (refer to enclosure). We would suggest discussing these concerns and appropriate action at the meeting scheduled for September 9, 2004, between USS Lead, IDEM and U.S. EPA.

If you have any questions regarding this letter, please contact me at (312) 886-7567 or [capiro.mirtha@epa.gov](mailto:capiro.mirtha@epa.gov).

Sincerely yours,



Mirtha Capiro  
Project Coordinator/Manager  
Enforcement and Compliance Assurance Branch

Enclosures

cc: Michael McClary, ORC  
Ruth Jean/Mike Sickels, IDEM

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**CONCERNS IDENTIFIED BY THE  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA)  
FOR ON-SITE AT  
U.S.S. LEAD REFINERY, INC. (USS Lead)  
EPA ID NO. IND 047 030 226**

1. Refer to enclosed Human Health and Ecological Risk Assessment Screening Comparison Tables for the USS Lead facility (Tables 1 through 11), including Figure 1. The tables were prepared by TechLaw Inc. on behalf of U.S. EPA. The screening results for on-site indicate the presence of potential unacceptable exposures to human and ecological receptors.
2. The approved Modified Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report presents July 2003 data compared to outdated Indiana Department of Environmental Management (IDEM) Risk Integrated System of Closure (RISC) values. IDEM RISC values were updated in January 2004.
3. The depths of samples are not clearly and consistently presented in the approved MRFI Report. For example, some "depth" information is presented with a "Start Depth" and "End Depth" (i.e., Table 10), some depth information is presented as simply "Depth" where it is not clear whether the number is the start depth or end depth (i.e., Table 14), and some depth is conveyed simply by the convention of the "A" or "B" that follows the Sample ID with the "A" denoting a 0-6 inch interval and the "B" denoting the 6-12 inch interval. However, even this A/B approach does not appear to be consistently used because subsurface samples collected during the 2003 MRFI sampling event were supposed to be collected from the 6 inch to 2 foot interval and these samples are presented in Table 17 as "B" samples suggesting they were only collected from the 6 inch to 12 inch interval.
4. The approved MRFI report does not address the nature and extent of contamination from the USS Lead facility into the Grand Calumet River. This aspect has been excluded from the MRFI Report to avoid duplication of effort in relation to the Natural Resources Damage Assessment under the jurisdiction of the United States Fish and Wildlife Service and the Indiana Department of Environmental Management. The nature and extent of contamination from the USS Lead facility into the Grand Calumet River needs to be considered in a final remedy decision for the site.
5. **Approved Interim Stabilization Measures (ISM) and Implementation Report, Section 2.0 ISM Objective Activities.** The ISM and Implementation Report and the cross section drawings for the canal (dated March 15, 2001) do not provide full documentation on canal remediation activities related to fill placement and dam construction. The following aspects have not been documented appropriately: a) the nature, extent and depth of fill(s); and b) the nature, location and structural dimensions of the canal dam.
6. **Approved MRFI Report, Section 1.3, Regulatory and Reporting History, page 2 of 3.** The first sentence from this section indicates the following: "...USS Lead did several cleanups and after cleanup verified the area was clean [emphasis added] with confirmation sampling." The use of the word "clean" in this sentence is misleading

since contamination that may pose unacceptable exposures to human and ecological receptors remains at the site after removal.

7. **Approved MRFI Report, Section 2.2.2, Surface Water, Page 4 of 16.** Surface water results for various metal parameters exceed U.S. EPA Region 5 ecological screening levels (ESLs) and corresponding Indiana Water Quality Criteria at wetland locations. However, the MRFI report does not discuss this site condition. In addition, the MRFI Report does not discuss whether the surface water data available may be adequate to characterize the surface water at the site in light of these new data.
8. **Approved MRFI Report, Section 2.6, Exposure Pathways and Receptors, Page 9 of 16.** No bibliographic reference is provided for the study which suggests that the bioavailability of lead is only 50%.
9. **Approved MRFI Report, Section 2.6, Exposure Pathways and Receptors, Page 9 of 16.** The text suggests that there may be only limited risks associated with the ingestion of wetlands soil/sediments and ingestion of site plants based on the bioavailability of lead and arsenic. Even if only 50% of the lead and arsenic found in the wetlands may be bioavailable, the aforementioned exposure pathways could still be potentially complete given the very high detections of lead and arsenic in July 2003 soil samples. Additionally, polynuclear aromatic hydrocarbons (PAH) which are known persistent, bioaccumulative, and toxic (PBT) constituents were detected in wetland soil/sediment exceeding ESLs (as well as IDEM RISC Tier 1 Industrial values). Moreover, this section fails to address the potential construction worker scenario (e.g., associated with post-closure activities).
10. **Approved MRFI Report, Section 2.9.1, Historic Nature and Extent of Contamination, Page 12 of 16.** Available site data indicates that contamination from lead and other metals related to USS Lead's operations is present in soil/sediment, groundwater and surface water at concentrations that may pose unacceptable exposures to human health and ecological receptors.
11. **Approved MRFI Report, Section 2.9.2, Current Nature and Extent of Contamination, Pages 13.** The first sentence of section 2.9.2 states "The current nature and extent of contamination originating from the USS Lead site is believed to be contained in the onsite wetlands area." Contamination from lead and other metals that may pose unacceptable exposures to human and/or ecological receptors remain in place in other on-site areas, both on-site and off-site, in addition to the wetlands.
12. **Approved MRFI Report, Section 2.9.2, Current Nature and Extent of Contamination, Pages 13.** The end of the first paragraph states "The range of measured lead concentrations in the remaining material in the wetlands ranges from below detection to a maximum of 20,000 milligrams per kilogram (mg/kg). The maximum was measured during the *Revised MRFI Work Plan Addendum* sampling at sample location MRFI-SS-7A and was sampled in close proximity to Area A. Further, MRFI-SS-7B, the sample collected from 6" to 2' below ground surface at the same location, has a lead concentration of 2,600 mg/kg, illustrating that the high concentration of lead was limited to the surface and was not mobile to the underlying soils/sediment."

It is noted that the analysis results from the sample collected from 6" to 2' below ground surface indicate the presence of elevated contamination from lead, and possibly other metals.

13. **Approved MRFI Report, Section 2.9.2, Current Nature and Extent of Contamination, Pages 13 through 16.** Page 14 of 18 states that "USS Lead believes the remaining lead concentrations in the wetlands do not pose a significant exposure risk." The results from a risk assessment to confirm this statement are not available. In addition, the PAH results that exceed screening levels in the wetland area soil/sediment samples are not discussed in the MRFI Report.
14. **Approved MRFI Report, Figure 6, Former Waste Storage and Building Locations / Initial XRF Screening.** Figure 6 does not indicate the date, source, or elevations of the topographic contours shown in the figure.
15. **Approved MRFI Report, Figure 7, Cross-Section Model for Contaminant Migration.** The cross section provided in Figure 7 indicates the location of "Possible Windblown Material." The pattern used for "Possible Windblown Material" is presented in only a few localized areas. Aerial dispersion of contamination related to the site is expected to have been present over the entire cross-sectional area presented in Figure 7.
16. **Approved MRFI Report, Figure 8, Schematic of the Migration of Contaminants.** Historic U.S. EPA and USS Lead documents indicate that bag house dust was stored in the western portion of the Tank House building. Figure 8 does not show that dust storage piles were present at that location.
17. **Approved MRFI Report, Figure 9, Conceptual Site Model Diagram for Contaminated Soil.** The diagram presented in Figure 9 does not indicate the potential for complete exposure pathways for site trespassers for dermal contact with wetland sediment or ingestion of wetland sediment. These pathways could potentially be complete.  
Additionally, the diagram does not indicate the potential for complete exposure pathways for terrestrial and aquatic biota for dermal contact with wetland sediment or ingestion of wetland sediment. Although only 50% of the lead and arsenic found in the wetlands may be bioavailable, detections are high enough to suggest that these pathways could be complete.
18. **Approved MRFI Report, Table 19. SVOC and VOC Analytical Results for Revised MRFI Addendum Sampling - July 2003.** It appears that the method detection limits for a few VOCs and SVOCs exceed the IDEM RISC Tier 1 Industrial values and/or ESLs for some constituents (e.g., 1,3-dichlorobenzene, 2,4-dimethylphenol, 2,4-dinitrophenyl, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-chlorophenol, di-n-butyl phthalate, hexachlorobutadiene, nitrobenzene, pentachlorophenol). In addition, data qualifiers presented in Table 19 are not defined in the footnotes.
19. **Approved MRFI Report, Executive Summary.** The last paragraph, first sentence, states "The depth of the many reports and investigations conducted for the USS Lead

site suggests that the USS Lead site has been thoroughly investigated both prior to excavation, during excavation and post-excavation to confirm that removal of contaminated materials was comprehensive." The use of the word "comprehensive" in this sentence is misleading since contamination that may pose unacceptable exposures to human and ecological receptors remains at the site.

In addition, paragraph 4, states "Further, lead slag used as fill off-site is evidenced by increasing lead concentrations with depth at several locations." There are several potential scientific explanations for "increasing lead concentrations with depth" other than 'lead slag' used as fill.

20. **Environmental Indicators and Final Remedies.** The groundwater and surface water data available from the USS Lead site appear to indicate that the current site conditions do not meet the definition under Environmental Indicator (EI) Determination CA750 for Migration of Contaminated Groundwater under Control (refer to blank checklist for EI CA 750 and related U.S. EPA guidance). It can be noted that the concentrations of contaminants in groundwater at the groundwater-surface water interface associated with the Grand Calumet River do not exceed the Safe Drinking Water Act Maximum Contaminant Levels (MCLs) for those contaminants. This aspect represents a major achievement towards meeting a CA750 EI determination, as well as supporting a final remedy decision for the USS Lead site. However, the concentrations of some contaminants in groundwater exceed MCLs at wells located upgradient from on-site surface water bodies. Groundwater discharges into on-site surface water may potentially create unacceptable impacts on human health and the eco-system. A CA750 EI determination would only consider surface water conditions arising from groundwater discharge.

Further, the surface water data available from on-site also appear to indicate the presence of potential leaching of contaminants from soil/sediment into surface water. A final remedy decision for the site needs to consider the above site condition.

In addition, appropriate assessment of the available on-site data is necessary to support a CA725 EI Determination of Current Human Exposures under Control for the USS Lead site (refer to blank checklist for EI CA725). Moreover, the CA725 EI determination will consider the results from off-site activities to be implemented under Superfund authority. A final remedy decision for the site needs to consider the above information.

**TABLE 1**  
**USS LEAD-SLRE**  
**INORGANIC SOIL DATA COMPARED TO U.S. EPA ECOLOGICAL SCREENING CRITERIA**

**TABLE 1**  
**USS LEAD-SLRE**  
**INORGANIC SOIL DATA COMPARED TO U.S. EPA ECOLOGICAL SCREENING CRITERIA**

Sample ID	* Depth	Sample	Screening Criteria**	Units (mg/kg)																
				Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Ni	Se	Ag	Tl	Sn	V	Zn
MRFI-SS-17	5 0-6"	Eco-SSL-P	N/A	N/A	N/A	N/A	32	N/A	13	N/A	110	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
		Eco-SSL-SI	78	N/A	330	40	140	N/A	N/A	N/A	1700	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
		Eco-SSL-A	N/A	N/A	N/A	N/A	1	N/A	190	N/A	16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
		Eco-SSL-M	0.29	N/A	1000	36	0.38	N/A	240	N/A	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
		ESL	0.142	5.7	1.04	1.06	2.22	0.4	0.14	5.4	0.0537	0.1	13.6	0.0276	4.04	0.0569	7.62	1.59	6.6	
MRFI-SS-15A	5	0-6"		4.8 <sup>a</sup>	12	6.8	N/A	0.61 <sup>a</sup>	2.4	N/A	N/A	5.6	0.012 B	2.2	N/A	0.32 U	2.1	N/A	3.5	11
MRFI-SS-17	5	0-6"		46 <sup>a</sup>	59	N/A	N/A	2.5 <sup>b</sup>	N/A	N/A	N/A	470 <sup>c</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	680
MRFI-SS-18	5	0-6"		16 <sup>a</sup>	15	13	N/A	1.10 <sup>b</sup>	4.8	N/A	N/A	150 <sup>c</sup>	0.17	4.3	N/A	0.35 U	27	N/A	5.7	200
MRFI-SS-19	5	0-6"		160 <sup>a</sup>	65	N/A	N/A	3.30 <sup>b</sup>	N/A	N/A	N/A	820 <sup>c</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	630
MRFI-SS-20	5	0-6"		75 <sup>a</sup>	81	N/A	N/A	6.1 <sup>b</sup>	N/A	N/A	N/A	950 <sup>c</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1300
MRFI-SS-21	5	0-6"		1.7 <sup>a</sup>	3.4	6.6	0.073 B	0.13	3.1	1.2	4.2	22 <sup>b</sup>	0.013 B	2.7	0.09 B	0.66	4.4	0.03 B	3.6	25
MRFI-SS-22	5	0-6"		29 N <sup>a</sup>	25	N/A	N/A	2.80 <sup>b</sup>	N/A	N/A	N/A	580 N <sup>c</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	770
MRFI-SS-23	5	0-6"		100 <sup>a</sup>	64	N/A	N/A	2.60 <sup>b</sup>	N/A	N/A	N/A	710 <sup>c</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1000
MRFI-SS-24	5	0-6"		4 <sup>a</sup>	7.5	N/A	0.1 B	0.12	N/A	1.4	6.5	22 <sup>b</sup>	N/A	N/A	0.16 B	N/A	N/A	0.03 B	N/A	29
SS-03-011	2	6"		5.4 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60 <sup>c</sup>	N/A	3.1	N/A	N/A	N/A	N/A	N/A	24
SS-06-01	2	6"		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-04-051	2	6"		12 <sup>a</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	762 <sup>c</sup>	N/A	15	N/A	N/A	N/A	N/A	N/A	658
SS-05-011	2	6"		0.023 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.7 U	N/A	2.9 U	N/A	N/A	N/A	N/A	N/A	10
SS-05-021	2	6"		2.76 <sup>a</sup>	5.0	9.7	N/A	0.58 U	3.5	N/A	N/A	34 <sup>b</sup>	0.047 U	2.9 U	N/A	N/A	N/A	N/A	N/A	19
SS-05-031	2	6"		2.54 <sup>a</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	33 <sup>b</sup>	N/A	2.9 U	N/A	N/A	N/A	N/A	N/A	20
SS-05-041	2	6"		0.024 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.8 U	N/A	3.0 U	N/A	N/A	N/A	N/A	N/A	6.5
SS-06-04	2	6"		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-21-04	2	6"		1.5 U/1.6 U	2.1/2.1	N/A	N/A	.10 U/.11 U	N/A	N/A	N/A	1.9/1.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-21-06	2	6"		N/A	1.8	N/A	N/A	N/A	N/A	N/A	N/A	1.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-22-04	4	0-6"		2.4 <sup>a</sup>	4.2	N/A	N/A	0.16	N/A	N/A	N/A	3.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-22-05	4	0-6"		0.12 U	6.7	N/A	N/A	0.12 U	N/A	N/A	N/A	5.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-22-06	4	0-6"		10.8 <sup>a</sup>	11.7	N/A	N/A	0.67 <sup>b</sup>	N/A	N/A	N/A	227 <sup>c</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-22-07	4	0-6"		1.0 U	9.5	N/A	N/A	0.073 U	N/A	N/A	N/A	2.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
MRFI-SS-15B	5	6"-12"		0.82 <sup>a</sup>	2.1	3.2	N/A	0.023 U	2.2	N/A	N/A	1.9	0.0047 U	1.7	N/A	0.33 U	1.8 B	N/A	3.2	7.2
SS-03-012	2	1'		5.8 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.6 U	N/A	2.9 U	N/A	N/A	N/A	N/A	N/A	6.2
SS-03-032	2	1'		5.9 U	7.5	4.3	N/A	0.59 U	2.5	N/A	12 U	5.2	0.047 U	2.9 U	N/A	N/A	N/A	N/A	N/A	10
SS-03-033	2	1'		6.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0 U	N/A	3.1 U	N/A	N/A	N/A	N/A	N/A	13
SS-04-052	2	1'		5.4 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11	N/A	2.7 U	N/A	N/A	N/A	N/A	N/A	23
SS-05-012	2	1'		1.35 <sup>a</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.7 U	N/A	2.9 U	N/A	N/A	N/A	N/A	N/A	8
SS-05-022	2	1'		0.829 <sup>a</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.7 U	N/A	2.9 U	N/A	N/A	N/A	N/A	N/A	7.4
SS-05-032	2	1'		2.26 <sup>a</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14	N/A	2.9 U	N/A	N/A	N/A	N/A	N/A	15
SS-05-042	2	1'		0.024 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.8 U	N/A	3.0 U	N/A	N/A	N/A	N/A	N/A	8.9
SS-03-013	2	2'		0.64 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	14
SS-03-034	2	2'		6.3 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0 U	N/A	3.1 U	N/A	N/A	N/A	N/A	N/A	13
SS-04-053	2	2'		6.4 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	7.9
SS-05-013	2	2'		1.04 <sup>a</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0 U	N/A	3.7	N/A	N/A	N/A	N/A	N/A	9.7
SS-05-023	2	2'		2.72 <sup>a</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0 U	N/A	3.1	N/A	N/A	N/A	N/A	N/A	8
SS-05-033	2	2'		6.72 <sup>a</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0 U	N/A	3.1 U	N/A	N/A	N/A	N/A	N/A	9.3
SS-05-043	2	2'		0.026 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	7.4
SS-06-02	2	2'		6.4U/6.2U	69/72	7.3/7.8	N/A	0.64U/0.62U	2.9/3.1	N/A	13 U/12 U	5.2/5.0U	0.051U/0.050U	3.2U/3.1U	N/A	N/A	N/A	N/A	N/A	10/9.0
<b>Riparian Area (west of canal)</b>																				
SS-23-01	2	0		N/A	N/A	N/A	N/A	N/A	N/A	N/A	434 <sup>c</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-02-05	2	0-6"		30 <sup>a</sup>	N/A	N/A	N/A	N/A	N/A	N/A	365 <sup>c</sup>	N/A	5.8	N/A	N/A	N/A	N/A	N/A	N/A	263
SS-02-06	2	0-6"		35 <sup>a</sup>	N/A	N/A	N/A	N/A	N/A	N/A	168 <sup>c</sup>	N/A	8.8	N/A	N/A	N/A	N/A	N/A	N/A	259
SS-04-031	2	0-6"		5.7 U	N/A	N/A	N/A	N/A	N/A	N/A	148 <sup>c</sup>	N/A	11	N/A	N/A	N/A	N/A	N/A	N/A	205
SS-04-041	2	6"		14 <sup>a</sup>	N/A	N/A	N/A	N/A	N/A	N/A	712 <sup>c</sup>	N/A	21	N/A	N/A	N/A	N/A	N/A	N/A	724
SS-04-042	2	1'		5.3 U	N/A	N/A	N/A	N/A	N/A	N/A	19 <sup>b</sup>	N/A	2.7 U	N/A	N/A	N/A	N/A	N/A	N/A	35
SS-04-043	2	2'		5.5 U	N/A	N/A	N/A	N/A	N/A	N/A	10 <sup>b</sup>	N/A	2.8 U	N/A	N/A	N/A	N/A	N/A	N/A	34

**TABLE 1**  
**USS LEAD-SLRE**  
**INORGANIC SOIL DATA COMPARED TO U.S. EPA ECOLOGICAL SCREENING CRITERIA**

Sample ID	* Depth	Sample	Screening Criteria**	Units (mg/kg)																
				Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Ni	Se	Ag	Tl	Sn	V	Zn
Eco-SSL-P	N/A	N/A	Eco-SSL-P	N/A	N/A	N/A	32	N/A	13	N/A	110	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Eco-SSL-SI	78	N/A	330	40	140	N/A	N/A	1700	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Eco-SSL-A	N/A	N/A	N/A	N/A	1	N/A	190	N/A	16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			Eco-SSL-M	0.29	N/A	1000	36	0.38	N/A	240	N/A	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
			ESL	0.142	5.7	1.04	1.06	2.22	0.4	0.14	5.4	0.0537	0.1	13.6	0.0276	4.04	0.0569	7.62	1.59	6.6
Canal																				
MRFI-F-12	5	0-6"		2.9 N <sup>a</sup>	7.3	N/A	0.062 B	0.28 U	N/A	2.1	1.3	14 N	N/A	N/A	0.63 U	N/A	N/A	0.25 U	N/A	13
MRFI-F-13	5	0-6"		13 N <sup>a</sup>	36	N/A	N/A	0.27	N/A	N/A	N/A	24 N <sup>b</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19
From CAMU																				
MRFI-F-3	5	0-6"		1.4 <sup>c</sup>	2.4	N/A	0.079 B	0.057	N/A	2.7	2.4	5.2 N	N/A	N/A	0.65 U	N/A	N/A	0.26 U	N/A	14
MRFI-F-4	5	0-6"		3.6 <sup>a</sup>	8	N/A	0.067 B	1.3 <sup>d</sup>	N/A	2	1.5	22 N <sup>b</sup>	N/A	N/A	0.56 U	N/A	N/A	0.25	N/A	14

Concentrations are in mg/kg.

**Bold** indicates an exceedance of ecological screening criteria. The superscript indicates which criteria was exceeded. If no superscript is present, the concentration was only compared to the U.S. EPA Region 5 ESL as ECO-SSLs are not available for these constituents. In these cases, bold print indicates an exceedence of the U.S. EPA Region 5 ESL.

**Underline** indicates the maximum exceedence observed for a given constituent for habitat type. The superscript indicates which criteria was exceeded. If no superscript is present, the concentration was only compared to the U.S. EPA Region 5 ESL as ECO-SSLs are not available for these constituents. In these cases, bold print indicates an exceedence of the U.S. EPA Region 5 ESL.

N/A = Sample either not analyzed or data were not found in the reports available

#### Data Qualifiers:

B= indicates analyte result between the instrument detection limit and contract required detection limit; This data qualifer was undefined by the facility for the July 2003 data from the MRFI Report.

N= undefined by the facility

U= undetected at concentration listed

#### \* Data Citations:

1) Draft Interim Stabilization Measures and Implementation Report, November 6, 2001;

2) Site-wide Sampling and Analysis Report, July 24, 2001;

3) Soil Sampling Results, Canal Access Road and Holding Ponds, August, 28, 2001;

4) "Figure 1, USS Lead Refinery Site, Current Site Conditions, Lead Concentrations", provided to EPA via e-mail by GeoChemical Solutions on October 4, 2001. (the figure is undated);

5) Final USS Lead Modified RCRA Facility Investigation (MRFI) Report, July 2003 Sampling Event, March 1, 2004.

#### \*\* Screening Criteria:

Eco-SSL-P - EPA Ecological Screening Level for Plants, <http://www.epa.gov/ecotox/ecoss/>

Eco-SSL-SI - EPA Ecological Screening Level for Soil Invertebrates, <http://www.epa.gov/ecotox/ecoss/>

Eco-SSL-A - EPA Ecological Screening Level for Avian Wildlife, <http://www.epa.gov/ecotox/ecoss/>

Eco-SSL-M - EPA Ecological Screening Level for Mammalian Wildlife, <http://www.epa.gov/ecotox/ecoss/>

ESL - EPA Region 5 Ecological Screening Levels for Soil, August 2003, <http://www.epa.gov/RCRIS-Region-5/ca/ESL.pdf>

NOTE: The ESLs were used to screen constituents that lacked established Eco-SSLs. Eco-SSLs were used for all other constituents. However it should be noted that while some constituents had established Eco-SSLs for plants, soil invertebrates, avian wildlife, and mammalian wildlife, other constituents did not have ECO-SSLs established for each receptor population.

<sup>a</sup> - Concentration exceeds the ECO-SSL for mammalian wildlife only

<sup>b</sup> - Concentration exceeds the ECO-SSL for avian wildlife only

<sup>c</sup> - Concentration exceeds the ECO-SSLs for plants, avian wildlife, and mammalian wildlife

<sup>d</sup> - Concentration exceeds the ECO-SSLs for soil invertebrates and mammalian wildlife

<sup>e</sup> - Concentration exceeds the ECO-SSL for soil invertebrates only

<sup>f</sup> - Concentration exceeds the ECO-SSLs for avian and mammalian wildlife

<sup>g</sup> - Concentration exceeds the ECO-SSLs for plants, soil invertebrates, avian wildlife and mammalian wildlife

**TABLE 2**  
**USS LEAD-SLRE**  
**INORGANIC SURFACE WATER DATA COMPARED TO U.S. EPA ECOLOGICAL SCREENING CRITERIA AND INDIANA WATER QUALITY CRITERIA**  
**Units (mg/L; Mercury in ug/L)**

U= undetected at concentration listed

EPA Region 5 ESLs - EPA Region 5 Ecological Screening Levels for Surface Water, August 2003, <http://www.epa.gov/RCRIS-Region-5/ca/ESL.pdf>

IWQC values - Indiana Water Quality Criteria for Acute and Chronic Aquatic Life for barium, beryllium, cadmium, copper, lead, nickel, and zinc were calculated based on surface water hardness values.

- <sup>a</sup> - Concentration exceeds the EPA Region 5 ESL and the IWQC for Acute Aquatic Life
- <sup>b</sup> - Concentration exceeds the EPA Region 5 ESL and the IWQC for Chronic Aquatic Life
- <sup>c</sup> - Concentration exceeds the EPA Region 5 ESL, the IWQC for Acute and Chronic Aquatic Life
- <sup>d</sup> - Concentration exceeds the IWQC for Acute and Chronic Aquatic Life
- <sup>e</sup> - Concentration exceeds the EPA Region 5 ESL only

**TABLE 2**  
**USS LEAD-SLRE**  
**INORGANIC SURFACE WATER DATA COMPARED TO U.S. EPA ECOLOGICAL SCREENING CRITERIA AND INDIANA WATER QUALITY CRITERIA**  
**Units (mg/L; Mercury in ug/L)**

Constituent	Habitat Type	Wetland Habitat			Dune & Swale Area			Canal				
	Sample ID	SW-02-04	MRFI-SW-6	MRFI-SW-10	SW-02-05	MRFI-SW-1	MRFI-SW-2	MRFI-SWD-1	MRFI-SW-13			
	Sample Date	2001*	7/8/2003	7/9/2003	2001*	7/8/2003	7/8/2003	7/8/2003	7/8/2003			
	Hardness	N/A	372	1110	N/A	151	179	141	246			
Screening Criteria									U.S. EPA Region 5 ESLs	IWQC for Acute Aquatic Life	IWQC for Chronic Aquatic Life	
Antimony		0.045	0.015 B	0.027	0.044	<b>0.17 B<sup>a</sup></b>	0.012 U	0.016 B	0.03	0.08	0.72	0.08
Arsenic		0.0355	<b>0.24<sup>b</sup></b>	0.038	0.104	0.069	<b>0.61<sup>c</sup></b>	0.068	<b>0.22<sup>b</sup></b>	0.148	0.34	0.158
Barium		0.04	N/A	0.037	0.075	N/A	0.04	N/A	N/A	0.22	2779.24 - 24911.26	972.02 - 8730.47
Beryllium		<i>0.040 U<sup>e</sup></i>	N/A	<i>0.00017 U</i>	<i>0.040 U<sup>e</sup></i>	N/A	<i>0.00017 U</i>	N/A	N/A	0.0036	1969942.81 - 362914392.2	218712.87 - 40292565.47
Cadmium		0.010 U	0.00044 U	<b>0.00087 B<sup>c</sup></b>	0.010 U	0.00044 U	0.00044 U	0.00044 U	0.00044 U	0.00015	16.11 - 165.20	0.73 - 3.69
Chromium		<i>0.040 U<sup>d</sup></i>	N/A	0.0015 U	<i>0.040 U<sup>d</sup></i>	N/A	0.0015 U	N/A	N/A	0.042	0.016	0.011
Cobalt		N/A	N/A	0.001 U	N/A	N/A	0.001 U	N/A	N/A	0.024	0.12	0.019
Copper		0.020 U	N/A	<b>0.0038 B<sup>c</sup></b>	0.020 U	N/A	<b>0.0028 B<sup>c</sup></b>	N/A	N/A	0.000158	12.98 - 90.70	4.58 - 10.49
Lead		<i>0.100 U<sup>e</sup></i>	<b>0.0028<sup>e</sup></b>	<b>0.0052<sup>e</sup></b>	<i>0.100 U<sup>e</sup></i>	<b>0.002<sup>e</sup></b>	<i>0.0017<sup>e</sup></i>	<b>0.0019<sup>e</sup></b>	<b>0.0088<sup>e</sup></b>	0.000117	1249.61 - 17278.87	65.53 - 906.18
Mercury		<i>0.0002 U<sup>d</sup></i>	N/A	<b>0.0017 J<sup>c</sup></b>	<i>0.0002 U<sup>d</sup></i>	N/A	<b>0.0036 J<sup>c</sup></b>	N/A	N/A	0.0013	0.00000169	0.00000091
Nickel		<i>0.050 U<sup>e</sup></i>	N/A	0.016	<i>0.050 U<sup>e</sup></i>	N/A	0.0019 U	N/A	N/A	0.0289	216.56 - 1240.73	24.08 - 137.94
Selenium		0.0050 U	N/A	0.005 U	0.0050 U	N/A	0.005 U	N/A	N/A	0.005	ID	0.005
Silver		<i>0.040 U<sup>e</sup></i>	N/A	0.0050 U	<i>0.040 U<sup>e</sup></i>	N/A	0.0050 U	N/A	N/A	0.00012	UR	UR
Thallium		0.002 U	N/A	0.00059	0.002 U	N/A	0.001 U	N/A	N/A	0.01	0.054	0.006
Tin		N/A	N/A	0.0033 U	N/A	N/A	0.0033 U	N/A	N/A	0.18	ID	ID
Vanadium		N/A	N/A	0.0021 U	N/A	N/A	0.0021 U	N/A	N/A	0.012	0.11	0.012
Zinc		0.020 U	0.023	<b>0.27<sup>e</sup></b>	0.020 U	0.032	0.019 B	0.032	0.018 B	0.0657	55.83 - 320.71	55.83 - 320.71

All concentrations are given in mg/L except Mercury. The detected concentrations and screening criteria for Mercury are depicted in ug/L.

**Bold** indicates an exceedence of ecological screening criteria. The superscript indicates which criteria was exceeded.

**Bold** indicates the maximum exceedence observed for a given constituent for habitat type. The superscript indicates which criteria was exceeded.

*Italic* indicates the constituent was undetected at concentration listed, however the concentration listed exceeds one or more surface water criterion. The superscript indicates which criteria was exceeded.

N/A = Sample either not analyzed or data not available

ID = Insufficient data for Tier I criteria or Tier II value calculation

UR = Currently under review

\* As reported by USS Lead, in 2001 Second Quarterly Report

MRFI Report, dated March 2004 -- July 2003 Sampling Data

Data Qualifiers:

B= undefined by the facility

J= estimated value

**TABLE 3**  
**USS LEAD-SLRE**  
**CALCULATION TABLE OF HARDNESS DEPENDENT INDIANA WATER QUALITY CRITERIA**

Constituent	Sample ID	Hardness Values (ug/L)	Indiana Water Quality Criteria (mg/L)	
			Acute aquatic life	Chronic aquatic life
Barium			=EXP(1.0629*(LN(hardness))+2.2 354)/1000	=EXP(1.0629*(LN(hardness))+1.1 869)/1000
	MRFI-SW-1	151,000	2989.210383	1047.607787
	MRFI-SW-2	179,000	3581.618886	1255.225077
	MRFI-SW-6	372,000	7793.848789	2731.456015
	MRFI-SW-10	1,110,000	24911.25911	8730.475838
	MRFI-SW-13	246,000	5021.654282	1759.904274
	MRFI-SWD-1	141,000	2779.245299	974.022783
			<b>Range: 2779.24 - 24911.26</b>	<b>Range: 972.02 - 8730.47</b>
Beryllium			=EXP(1.0629*(LN(hardness))+1.1 869)/1000	=EXP(2.528*(LN(hardness))- 10.77)/1000
	MRFI-SW-1	151,000	2342509.84	260077.1232
	MRFI-SW-2	179,000	3601141.309	399816.665
	MRFI-SW-6	372,000	22885491.98	2540861.437
	MRFI-SW-10	1,110,000	362914392.2	40292565.47
	MRFI-SW-13	246,000	8044733.318	893166.4075
	MRFI-SWD-1	141,000	1969942.809	218712.8736
			<b>Range: 1969942.81 - 362914392.</b>	<b>Range: 218712.87 - 40292565.47</b>
Cadmium			=EXP(1.128*(LN(hardness))- 3.6867)/1000	=EXP(0.7852*(LN(hardness))- 2.715)/1000
	MRFI-SW-1	151,000	17.40894808	0.771655011
	MRFI-SW-2	179,000	21.09136816	0.881923026
	MRFI-SW-6	372,000	48.13477762	1.566321099
	MRFI-SW-10	1,110,000	165.2003084	3.695541508
	MRFI-SW-13	246,000	30.18987636	1.132016424
	MRFI-SWD-1	141,000	16.11408658	0.731235604
			<b>Range: 16.11 - 165.20</b>	<b>Range: 0.73 - 3.69</b>
Copper			=EXP(0.9422*(LN(hardness))- 1.7)/1000	=EXP(0.8545*(LN(hardness))- 1.702)/1000
	MRFI-SW-1	151,000	13.84622742	4.855864877
	MRFI-SW-2	179,000	16.25314862	5.61556821
	MRFI-SW-6	372,000	32.37911235	10.49203508
	MRFI-SW-10	1,110,000	90.69904022	26.70295213
	MRFI-SW-13	246,000	21.92999025	7.368597609
	MRFI-SWD-1	141,000	12.98056597	4.579715752
			<b>Range: 12.98 - 90.70</b>	<b>Range: 4.58 - 10.49</b>
Lead			=EXP(1.273*(LN(hardness))- 1.055)/1000	=EXP(1.273*(LN(hardness))- 4.003)/1000
	MRFI-SW-1	151,000	1363.505756	71.50836411
	MRFI-SW-2	179,000	1693.172593	88.79757331
	MRFI-SW-6	372,000	4296.556074	225.3306925
	MRFI-SW-10	1,110,000	17278.87543	906.1818115
	MRFI-SW-13	246,000	2537.93043	133.1004673
	MRFI-SWD-1	141,000	1249.612187	65.53527397
			<b>Range: 1249.61 - 17278.87</b>	<b>Range: 65.53 - 906.18</b>

**TABLE 3**  
**USS LEAD-SLRE**  
**CALCULATION TABLE OF HARDNESS DEPENDENT INDIANA WATER QUALITY CRITERIA**

Constituent	Sample ID	Hardness Values (ug/L)	Indiana Water Quality Criteria (mg/L)	
			Acute aquatic life	Chronic aquatic life
Nickel			=EXP(0.846*(LN(hardness))+2.255)/1000	=EXP(0.846*(LN(hardness))+0.0584)/1000
	MRFI-SW-1	151,000	229.4819619	25.51392621
	MRFI-SW-2	179,000	265.001127	29.46296582
	MRFI-SW-6	372,000	492.0546993	54.70690239
	MRFI-SW-10	1,110,000	1240.730038	137.9450236
	MRFI-SW-13	246,000	346.7888754	38.55617105
	MRFI-SWD-1	141,000	216.5575981	24.0769886
			<b>Range: 216.56 - 1240.73</b>	<b>Range: 24.08 - 137.94</b>
Zinc			=EXP(0.8473*(LN(hardness))+0.884)/1000	=EXP(0.8473*(LN(hardness))+0.884)/1000
	MRFI-SW-1	151,000	59.16481208	59.16481208
	MRFI-SW-2	179,000	68.33743836	68.33743836
	MRFI-SW-6	372,000	127.0098359	127.0098359
	MRFI-SW-10	1,110,000	320.7144161	320.7144161
	MRFI-SW-13	246,000	89.46550923	89.46550923
	MRFI-SWD-1	141,000	55.8276923	55.8276923
			<b>Range: 55.83 - 320.71</b>	<b>Range: 55.83 - 320.71</b>

**TABLE 4**  
**USS LEAD-SLRE**  
**ORGANIC SOIL DATA COMPARED TO U.S. EPA ECOLOGICAL SCREENING CRITERIA**  
**Collected July 2003**  
**Units (ug/kg)**

Parameter	U.S. EPA Region 5 ESL	Sample ID	MRFI-F-12	MRFI-SS-11A	MRFI-SS-11B	MRFI-SS-9A	MRFI-SS-9B	MRFI-SSD-1*
		Location	Canal	Wetlands	Wetlands	Wetlands	Wetlands	X
		Sample depth	0-6"	0-6"	6"-24"	0-6"	6"-24"	X
		Sample Date	7/8/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003
4,6-Dinitro-2-methylphenol	-		<120	<1200	<130	<2000	<2400	<2200
4-Bromophenyl phenyl ether	-		<4	<40	<4.2	<66	<78	<70
4-Chloro-3-methylphenol	-		<49	<490	<52	<800	<950	<860
4-Chloroaniline	1,100		<130	<1300	<140	<2100	<2500	<2300
4-Chlorophenyl phenyl ether	-		<4.7	<46	<4.9	<76	<90	<82
4-Methyl-2-pentanone (MIBK)	443,000		<2.9	<10	<4.3	<17	<8.5	<5.9
4-Methylphenol (m/p-cresol)	-		<7.5	<75	<7.9	<120	<150	<130
4-Nitroaniline	21,900		<50	<500	<53	<830	<980	<880
4-Nitrophenol	5,120		<110	<1100	<110	<1700	<2100	<1900
Acenaphthene	682,000		< 1.8	39 J	<1.9	130 J	1300	1200 H
Acenaphthylene	682,000		<1.2	330 J	5.8 J	300 J	540 J	790
Acetone	2,500		19	880 AB	290 AB	1900 A	410 A	870 A
Anthracene	1,480,000		<1.1	260 J	3.6 J	250 J	3800	5400
Benzene	255		<0.63	<2.2	<0.95	<3.7	<1.9	<1.3
Benzo(a)anthracene	5,210		<1.4	870	13 J	670 J	<b>36000 M</b>	<b>42000</b>
Benzo(a)pyrene	1,520		<2.8	810	<3	740	<b>53000 H</b>	<b>63000 H</b>
Benzo(b)fluoranthene	59,800		<2.7	1100 M	25 J	1700 M	17000 M	16000 M
Benzo(ghi)perylene	119,000		13 J	4600	130	1700	14000	15000
Benzo(k)fluoranthene	148,000		<3.6	230 J	<3.8	410 J	20000 M	22000 M
Bis(2-chloroethoxy)methane	-		<3.7	<37	<3.9	<61	<73	<66
Bis(2-ethylhexyl)phthalate	-		<12	160 J	<13	530 J	<240	<220
Bromodichloromethane	540		<0.65	<2.3	<0.98	<3.8	<1.9	<1.3
Bromoform	15,900		<0.87	<3	<1.3	<5.1	<2.6	<1.8
Bromomethane	-		<2.8	25	<4.2	<16	<8.2	<5.7
Butyl benzyl phthalate	239		<5.3	<53	<5.6	<87	<100	<93
Carbazole	-		<45	<450	<48	<740	<880	<790
Carbon disulfide	94.1		<1.9	<6.6	<2.9	<11	<5.7	26
Carbon tetrachloride	2,980		<0.79	<2.8	<1.2	<4.6	<2.4	<1.6
Chlorobenzene	13,100		<0.87	<3	<1.3	<5.1	<2.6	<1.8
Chloroethane	-		<1.5	<5.3	<2.3	<8.9	<4.6	<3.2
Chloroform	1,190		<0.59	<2.1	<0.9	<3.5	<1.8	<1.2

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**TABLE 4**  
**USS LEAD-SLRE**  
**ORGANIC SOIL DATA COMPARED TO U.S. EPA ECOLOGICAL SCREENING CRITERIA**  
**Collected July 2003**  
**Units (ug/kg)**

Parameter	U.S. EPA Region 5 ESL	Sample ID	MRFI-F-12	MRFI-SS-11A	MRFI-SS-11B	MRFI-SS-9A	MRFI-SS-9B	MRFI-SSD-1*
		Location	Canal	Wetlands	Wetlands	Wetlands	Wetlands	X
		Sample depth	0-6"	0-6"	6"-24"	0-6"	6"-24"	X
		Sample Date	7/8/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003
1,1,1-Trichloroethane	29,800		<0.58	<2	<0.88	<3.4	<1.7	<1.2
1,1,2,2-Tetrachloroethane	127		<0.61	<2.1	<0.93	<3.6	<1.8	<1.3
1,1,2-Trichloroethane	28,600		<0.68	<2.4	<1	<4	<2	<1.4
1,1-Dichloroethane	20,100		<0.84	<2.9	<1.3	<4.9	<2.5	<1.7
1,1-Dichloroethene	8,280		<0.95	<3.3	<1.4	<5.6	<2.8	<2
1,2,4-Trichlorobenzene	11,100		<76	<760	<80	<1200	<1500	<1300
1,2-Dichlorobenzene	2,960		<100	<1000	<110	<1700	<2000	<1800
1,2-Dichloroethane	21,200		< 0.55	<1.9	<0.84	<3.2	<1.6	<1.1
1,2-Dichloroethene (total)	-		<1.8	<6.3	<2.7	<11	<5.4	<3.8
1,2-Dichloropropane	32,700		<0.91	<3.2	<1.4	<5.4	<2.7	<1.9
1,3-Dichlorobenzene	37,700		<100	<1000	<110	<1700	<2000	<1800
1,4-Dichlorobenzene	546		<92	<920	<96	<1500	<1800	<1600
2,2-oxybis (1-chloropropane)	-		<97	<970	<100	1600	1900	<1700
2,4,5-Trichlorophenol	14,100		<49	<490	<52	<800	<950	<860
2,4,6-Trichlorophenol	9,940		<61	<610	<64	<990	<1200	<1100
2,4-Dichlorophenol	87,500		<62	<620	<65	<1000	<1200	<1100
2,4-Dimethylphenol	10		<78	<770	<81	<1300	<1500	<1400
2,4-Dinitrophenol	60.9		<150	<1500	<150	<2400	<2900	<2600
2,4-Dinitrotoluene	1,280		<2.2	<22	<2.3	<36	<43	<38
2,6-Dinitrotoluene	32.8		<2.8	<28	<3	<47	<55	<50
2-Butanone (MEK)	89,600		<4	87	29	170	46	200
2-Chloronaphthalene	12.2		<62	<620	<65	<1000	<1200	<1100
2-Chlorophenol	243		<76	<760	<80	<1200	<1500	<1300
2-Hexanone	12,600		<1.6	<5.6	<2.5	<9.5	<4.8	<3.4
2-Methylnaphthalene	3,240		<1.9	320 J	5.6 J	190 J	400 J	430 J
2-Methylphenol (o-cresol)	-		<11	<110	<11	<180	<210	<190
2-Nitroaniline	74,100		<44	<440	<46	<720	<850	<770
2-Nitrophenol	1,600		<81	<810	<86	<1300	<1600	<1400
3,3-Dichlorobenzidine	646		<23	<230	<24	<380	<450	<410
3-Nitroaniline	3,160		<140	<1400	<150	<2300	<2800	<2500

**TABLE 4**  
**USS LEAD-SLRE**  
**ORGANIC SOIL DATA COMPARED TO U.S. EPA ECOLOGICAL SCREENING CRITERIA**  
**Collected July 2003**  
**Units (ug/kg)**

Parameter	U.S. EPA Region 5 ESL	Sample ID	MRFI-F-12	MRFI-SS-11A	MRFI-SS-11B	MRFI-SS-9A	MRFI-SS-9B	MRFI-SSD-1*
		Location	Canal	Wetlands	Wetlands	Wetlands	Wetlands	X
		Sample depth	0-6"	0-6"	6"-24"	0-6"	6"-24"	X
		Sample Date	7/8/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003
Chloromethane	-		<0.89	<3.1	<1.4	<5.2	<2.7	<1.9
Chrysene	4,730		15 J	2800	58	1400	<b>140000</b>	<b>130000 H</b>
Dibenzo(a,h)anthracene	18,400		<2.8	450	10 J	<47	7300	7900
cis-1,3-Dichloropropene	398		<0.75	<2.6	<1.1	<4.4	<2.2	<1.6
Dibenzofuran	-		<3.5	130 J	<3.7	230 J	220 J	340 J
Dibromochloromethane	2,050		<0.66	<2.3	<1	<3.8	<2	<1.4
Diethyl phthalate	24,800		<4.8	<48	<5	<78	<93	<84
Dimethyl phthalate	734,000		<4.7	<46	<4.9	<76	<90	<82
Di-n-butyl phthalate	150		<26	<260	<27	<420	<500	<450
Di-n-octyl phthalate	709,000		<11	<110	<12	<180	<220	<200
Ethylbenzene	5,160		<1	<3.7	<1.6	<6.1	<3.1	<2.2
Fluoranthene	12,200		6.7 J	840	11 J	1100	<b>34000 H</b>	<b>24000 H</b>
Fluorene	12,200		<2.1	98 J	<2.2	150 J	10000	<b>16000</b>
Hexachlorobenzene	199		<2.3	<23	<2.4	<38	<45	<41
Hexachlorobutadiene	39.8		<4.3	<43	<4.5	<70	<83	<75
Hexachlorocyclopentadiene	755		<70	<700	<73	<1100	<1400	<1200
Hexachloroethane	596		<4.3	<43	<4.5	<70	<83	<75
Indeno(1,2,3-cd)pyrene	10,900		4.2 J	880	16 J	1400	7300	8000
Isophorone	13,900		<3.1	<31	<3.3	<51	<60	<54
Methylene chloride	4,050		<1.7	<6	<2.6	<10	<5.1	3.6
Naphthalene	99.4		<2.2	<b>750</b>	15 J	<b>200 J</b>	<b>580 J</b>	<b>460 J</b>
Nitrobenzene	1,310		<3.2	<32	<3.4	<53	<63	<57
n-Nitroso-di-n-propylamine	-		<3	<30	<3.1	<49	<58	<52
n-Nitrosodiphenylamine	545		<3.7	<37	<3.9	<61	<73	<66
Pentachlorophenol	119		<130	<1300	<140	<2100	<2500	<2300
Phenanthrene	45,700		<1.3	1600	30 J	810	3500	3100 H
Phenol	12,000		<2.1	<21	<2.2	<34	<40	<36
Pyrene	78,500		22 J	1500	31 J	1100	<b>160000</b>	<b>160000</b>
Styrene	4,690		<0.95	<3.3	<1.4	<5.6	<2.8	<2
Tetrachloroethene	9,920		<0.64	<2.2	<0.97	<3.7	<1.9	<1.3
Toluene	5,450		<0.95	<3.3	<1.4	<5.6	<2.8	<2

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**TABLE 4**  
**USS LEAD-SLRE**  
**ORGANIC SOIL DATA COMPARED TO U.S. EPA ECOLOGICAL SCREENING CRITERIA**  
**Collected July 2003**  
**Units (ug/kg)**

Parameter	U.S. EPA Region 5 ESL	Sample ID	MRFI-F-12	MRFI-SS-11A	MRFI-SS-11B	MRFI-SS-9A	MRFI-SS-9B	MRFI-SSD-1*
		Location	Canal	Wetlands	Wetlands	Wetlands	Wetlands	X
		Sample depth	0-6"	0-6"	6"-24"	0-6"	6"-24"	X
		Sample Date	7/8/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003
<b>trans-1,3-Dichloropropene</b>	398		<0.8	<2.8	<1.2	<4.7	<2.4	<1.7
<b>Trichloroethene</b>	12,400		<0.56	<2	<0.85	<3.3	<1.7	<1.2
<b>Vinyl chloride</b>	646		<0.7	<2.5	<1.1	<4.1	<2.1	<1.5
<b>Xylenes (total)</b>	10,000		<2.8	<9.6	<4.2	<16	<8.2	<5.7

Concentrations are in ug/kg.

**Bold** indicates an exceedence of ecological screening criteria.

**Bold** indicates the maximum exceedence observed for a given constituent for habitat type.

*Italics* indicates the constituent was undetected at concentration listed, however the concentration listed exceeds the screening critiera.

"<" indicates the constituent was undetected up to the concentration listed.

\*X - The exact location and sample depth of MRFI-SSD-1 remain unclear. However, it is likely that this sample was collected from the wetland area.

U.S. EPA Region 5 ESL - EPA Region 5 Ecological Screening Levels for Soil, August 2003, <http://www.epa.gov/RCRIS-Region-5/ca/ESL.pdf>

(-) Indicates an ESL is not available

Source:

Final USS Lead Modified RCRA Facility Investigation (MRFI) Report, dated March 1, 2004

The MRFI Report organic data table, Table 19, uses nonstandard data qualifiers that were not defined in the footnotes. Therefore, the data qualifiers have not been defined in this screening table.

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**TABLE 5**  
**USS LEAD-SLRE**  
**PCB SOIL DATA COMPARED TO U.S. EPA ECOLOGICAL SCREENING CRITERIA**  
**Collected July 2003**  
**Units (ug/kg)**

Sample ID	Sample Depth	U.S. EPA Region 5 ESL	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
<b>Wetlands (south of CAMU)</b>									
MRFI-SS-9A	0-6"	0.332	120 U	280 U	130 U	270 U	<b>2,500</b>	110 U	110 U
MRFI-SS-11A	0-6"	0.332	37 U	86 U	39 U	81 U	30 U	35 U	<b>220</b>
MRFI-SSD-1	X	0.332	110 U	250 U	110 U	230 U	84 U	99 U	92 U
MRFI-SS-9B	6"-24"	0.332	120 U	270 U	120 U	260 U	94 U	110 U	100 U
MRFI-SS-11B	6"-24"	0.332	3.9 U	9.1 U	4.1 U	8.6 U	3.1 U	3.7 U	3.4 U
<b>Canal</b>									
MRFI-F-12	0-6"	0.332	3.7 U	8.6 U	3.9 U	8.1 U	3.0 U	3.5 U	3.2 U

Concentrations are in ug/kg.

**Bold** indicates an exceedence of ecological screening criteria.

**Underline** indicates the maximum exceedence observed for a given constituent for habitat type.

*Italics* indicates the constituent was undetected at concentration listed, however the concentration listed exceeds the screening critiera.

U= undetected at concentration listed

X - The exact location and sample depth of MRFI-SSD-1 remain unclear. However, it is likely that this sample was collected from the wetland area.

U.S. EPA Region 5 ESL - Based on Total PCBs. As shown above, this value was used to compare all PCB congeners. EPA Region 5 Ecological Screening Levels for Soil, August 2003, <http://www.epa.gov/RCRIS-Region-5/ca/ESL.pdf>

Source: Final USS Lead Modified RCRA Facility Investigation (MRFI) Report, March 1, 2004

**TABLE 6**  
**USS LEAD-SLRE**  
**DIOXIN SOIL DATA COMPARED TO U.S. EPA ECOLOGICAL SCREENING CRITERIA**  
**Collected July 2003**  
**Units (ug/kg)**

			Sample ID Location Sample Depth Sample Date	MRFI-SS-9A			MRFI-SS-9B				
Parameter	Units	TEF		Criteria Exceeded	HQ	Criteria Exceeded		Criteria Exceeded	HQ	Criteria Exceeded	
Percent Moisture	%	N/A		78.8	N/A	-	N/A	52.7	N/A	-	N/A
2,3,7,8-TCDD	ug/kg	1		0.012	a, c, d	0.012	a, c, d	ND	a, c, d	-	N/A
13C-2,3,7,8-TCDD	%REC	N/A		77	N/A	-	N/A	119	N/A	-	N/A
Total TCDD	ug/kg	-		0.46	a, c, d	-	a, c, d	ND	none	-	N/A
1,2,3,7,8-PeCDD	ug/kg	1		0.15	a, c, d	0.15	a, c, d	0.018	a, c, d	0.018	a, c, d
13C-1,2,3,7,8-PeCDD	%REC	N/A		86	N/A	-	N/A	131	N/A	-	N/A
Total PeCDD	ug/kg	-		2.1	a, c, d	-	a, c, d	0.08	a, c, d	-	N/A
13C-1,2,3,6,7,8-HxCDD	%REC	N/A		83	N/A	-	N/A	69	N/A	-	N/A
1,2,3,4,7,8-HxCDD	ug/kg	0.1		0.11	a, c, d	0.011	a, c, d	0.026	a, c, d	0.0026	a, c
1,2,3,6,7,8-HxCDD	ug/kg	0.1		0.66	a, c, d	0.066	a, c, d	0.11	a, c, d	0.011	a, c, d
13C-1,2,3,4,6,7,8-HpCDD	%REC	N/A		91	N/A	-	N/A	82	N/A	-	N/A
1,2,3,7,8,9-HxCDD	ug/kg	0.1		0.091	a, c, d	0.0091	a, c	0.082	a, c, d	0.0082	a,c
13C-OCDD	%REC	N/A		91	N/A	-	N/A	62	N/A	-	N/A
Total HxCDD	ug/kg	-		5.9	a, c, d	-	N/A	0.92	a, c, d	-	N/A
1,2,3,4,6,7,8-HpCDD	ug/kg	0.1		2.2	a, c, d	0.22	a, c, d	0.62	a, c, d	0.062	a, c, d
13C-2,3,7,8-TCDF	%REC	N/A		77	N/A	-	N/A	56	N/A	-	N/A
Total HpCDF	ug/kg	-		4.3	a, c, d	-	N/A	1.3	a, c, d	-	N/A
13C-1,2,3,7,8-PeCDF	%REC	N/A		85	N/A	-	N/A	68	N/A	-	N/A
OCDD	ug/kg	0.0001		6.6	a, c, d	0.00066	a	2.8	a, c, d	0.00028	a
13C-1,2,3,4,7,8-HxCDF	%REC	N/A		87	N/A	-	N/A	100	N/A	-	N/A
2,3,7,8-TCDF	ug/kg	0.1		0.056	a, c, d	0.0056	a, c	0.032	a, c, d	0.0032	a, c
Total TCDF	ug/kg	-		1.4	a, c, d	-	N/A	0.23	a, c, d	-	N/A
13C-1,2,3,4,6,7,8-HpCDF	%REC	N/A		89	N/A	-	N/A	89	N/A	-	N/A
1,2,3,7,8-PeCDF	ug/kg	0.05		0.047	a, c, d	0.00235	a, c	0.13	a, c, d	0.0065	a,c
2,3,4,7,8-PeCDF	ug/kg	0.5		0.092	a, c, d	0.046	a, c, d	0.086	a, c, d	-	a, c, d
Total PeCDF	ug/kg	-		2.2	a, c, d	-	N/A	1	a, c, d	-	N/A

**TABLE 6**  
**USS LEAD-SLRE**  
**DIOXIN SOIL DATA COMPARED TO U.S. EPA ECOLOGICAL SCREENING CRITERIA**  
**Collected July 2003**  
**Units (ug/kg)**

			Sample ID Location Sample Depth Sample Date	MRFI-SS-9A Wetlands 0-6" 7/9/2003				MRFI-SS-9B Wetlands 6"-24" 7/9/2003			
Parameter	Units	TEF			Criteria Exceeded	HQ	Criteria Exceeded		Criteria Exceeded	HQ	Criteria Exceeded
<b>1,2,3,4,7,8-HxCDF</b>	ug/kg	0.1		<b>0.18</b>	a, c, d	<b>0.018</b>	a, c, d	<b>0.43</b>	a, c, d	<b>0.043</b>	a, c, d
<b>1,2,3,4,7,8-HxCDF</b>	ug/kg	0.1		<b>0.1</b>	a, c, d	<b>0.01</b>	a, c	<b>0.19</b>	a, c, d	<b>0.019</b>	a, c, d
<b>2,3,4,6,7,8-HxCDF</b>	ug/kg	0.1		<b>0.099</b>	a, c, d	<b>0.0099</b>	a, c	<b>0.076</b>	a, c, d	<b>0.0076</b>	a, c
<b>1,2,3,7,8,9-HxCDF</b>	ug/kg	0.1		ND	none	-	none	<b>0.019</b>	a, c, d	-	N/A
<b>Total HxCDF</b>	ug/kg	-		<b>2.4</b>	a, c, d	-	N/A	<b>4.5</b>	a, c, d	-	N/A
<b>1,2,3,4,6,7,8-HpCDF</b>	ug/kg	0.01		<b>0.64</b>	a, c, d	<b>0.0064</b>	a, c	<b>9.9</b>	a, c, d	<b>0.099</b>	a, c, d
<b>1,2,3,4,7,8,9-HpCDF</b>	ug/kg	0.01		<b>0.072</b>	a, c, d	<b>0.00072</b>	a	<b>0.54</b>	a, c, d	<b>0.0054</b>	a, c
<b>Total HpCDF</b>	ug/kg	-		<b>1.5</b>	a, c, d	-	N/A	<b>17</b>	a, c, d	-	N/A
<b>OCDF</b>	ug/kg	0.0001		<b>0.91</b>	a, c, d	<b>0.000091</b>	none	<b>10</b>	a, c, d	<b>0.001</b>	a

This table presents all available dioxin data.

**Bold** indicates an exceedence of ecological screening criteria.

N/A- Not applicable

ND- not detected

TEF - Toxic Equivalency Factor

TEQ - Toxic Equivalency Quotient

HQ = Hazard Quotient

(-) Not available

TEFs were applied to detected concentrations were available, therefore a resulting TEQ is available for comparison for some dioxin congeners.

Detected concentrations and TEQs were compared against the following criteria:

<sup>a</sup> - U.S. EPA Region 5 Ecological Soil Screening Level for 2,3,7,8-TCDD of 0.000199 ug/kg

<sup>b</sup> - U.S. EPA Region 9 Toxicity Reference Value for 2,3,7,8-TCDD of 500 ug/kg for soil invertebrates

<sup>c</sup> - U.S. EPA Region 9 Toxicity Reference Value for 2,3,7,8-TCDD of 0.001 ug/kg for mammals

<sup>d</sup> - U.S. EPA Region 9 Toxicity Reference Value for 2,3,7,8-TCDD of 0.01 ug/kg for birds

**TABLE 7**  
**USS LEAD-SLRE**  
**INORGANIC SOIL DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Units (mg/kg)**

Sample ID	* Sample Depth	Screening Criteria	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Ni	Se	Ag	Tl	Sn	V	Zn
		RISC-Default (mg/kg)	37	20	5,900	2,300	77	120	NA	2,700	230	32	2,700	53	87	10	NA	NA	10,000
		RISC-CW (mg/kg)	460	320	79,000	2,300	590	3,400	NA	42,000	970	340	23,000	5,700	5,700	80	NA	NA	340,000
		RISC-DC (mg/kg)	620	20	98,000	2,900	990	650	NA	57,000	1,300	470	31,000	7,800	7,800	110	NA	NA	470,000
		RISC-Mig (mg/kg)	37	29	5,900	3,200	77	120	NA	2,700	230	32	2,700	53	87	10	NA	NA	38,000
Uplands (east of CAMU)																			
SS-21-10	2	0-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-21-11	2	0-6"	5.9	13.5	N/A	N/A	0.1	N/A	N/A	N/A	47	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-21-12	2	0-6"	11.4	17.6	N/A	N/A	0.81	N/A	N/A	N/A	331	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-30-01	4	0-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-30-03	4	0-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-30-05	4	0-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	41.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-30-06	4	0-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-30-07	4	0-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-30-08	4	0-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	187	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
MRFI-SS-1	5	0-6"	2	5.5	N/A	N/A	0.24	N/A	N/A	N/A	8.5 N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13
MRFI-SS-2	5	0-6"	6.4	15	N/A	N/A	0.30	N/A	N/A	N/A	7.8 N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15
S-1A	2	3"-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S-2A	2	3"-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S-3A	2	3"-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	280	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S-4A	2	3"-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S-5A	2	3"-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	263	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S-7A	2	3"-6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S-1B	2	18"-24"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	47.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S-3B	2	18"-24"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S-4B	2	18"-24"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S-5B	2	18"-24"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S-7B	2	18"-24"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-03-023	2	2'	6.3 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0 U	N/A	2.5 U	N/A	N/A	N/A	N/A	N/A	16
SS-03-024	2	3'	6.3 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0 U	N/A	3.1 U	N/A	N/A	N/A	N/A	N/A	21
SS-03-025	2	4'	6.8 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	43	N/A	3.4 U	N/A	N/A	N/A	N/A	N/A	24
SS-03-026	2	5'	6.7 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.7	N/A	3.4 U	N/A	N/A	N/A	N/A	N/A	16
West Hill (west of CAMU)																			
SS-01-02	2	0-6"	160/278	N/A	N/A	N/A	N/A	N/A	N/A	N/A	562/512	N/A	56/56	N/A	N/A	N/A	N/A	N/A	1850/2070
SS-01-03	2	0-6"	1660	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7470	N/A	24	N/A	N/A	N/A	N/A	N/A	160
SS-01-05	2	0-6"	1330	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1130	N/A	63	N/A	N/A	N/A	N/A	N/A	1870
SS-01-06	2	0-6"	3710	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4080	N/A	65	N/A	N/A	N/A	N/A	N/A	1290
SS-21-01	2	0-6"	2.1	102	N/A	N/A	22.1	N/A	N/A	N/A	11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-21-02	2	0-6"	2.3	3	N/A	N/A	N/A	N/A	N/A	N/A	6.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-21-03	2	0-6"	N/A	35.1	N/A	N/A	7.4	N/A	N/A	N/A	5.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MRFI-SS-5A	5	0-6"	15	20	34	0.1 B	1.20	8.5	1.9	11	200 N	0.045	12	0.32 B	1.6	35	0.054 B	9.3	120
MRFI-F-6	5	0-6"	40	37	N/A	0.081 B	1.50	N/A	1.2	22	500 N	N/A	0.34 B	N/A	N/A	0.24 U	N/A	94	
MRFI-SS-7A	5	0-6"	1200	5700	360	N/A	30	550	N/A	N/A	20000 N	2.6	58	N/A	10	580	N/A	60	2200
MRFI-SS-8A	5	0-6"	260	940	160	N/A	160	1400	N/A	N/A	5200	6	150	N/A	7.5	1000	N/A	47	7500
MRFI-SS-9A	5	0-6"	230	530	380	N/A	20	580	N/A	N/A	7700	1.7	37	N/A	6.2	350	N/A	62	1200
MRFI-SS-10A	5	0-6"	7.2 N	11	8.1	0.096 B	0.44 B	2.7	2.3	4.8	62	0.052	3.3	0.16 B	0.36 U	7.3	0.063 B	3.9	56
MRFI-SS-11A	5	0-6"	380 N	650	150	1.7	24	80	13	420	3200 N	1.8	36	6.2	3.00 U	110	1.4	30	2100
MRFI-SS-5B	5	6"-12"	2.9	6	6.6	0.06 B	0.38 B	2.3	1 B	2.8	37 N	0.0054 B	2.4	0.085 B	0.31 U	4.9	0.24 U	2.8	18
MRFI-SS-7B	5	6"-12"	330	880	120	N/A	92	250	N/A	N/A	2600	2.7	91	N/A	7	160	N/A	28	7200
MRFI-SS-8B	5	6"-12"	88	920	120	N/A	57	520	N/A	N/A	1700	2.4	87	N/A	4.7	250	N/A	34	7100
MRFI-SS-9B	5	6"-12"	53	360	120	N/A	92	800	N/A	N/A	1300	4.1	76	N/A	4.3	310	N/A	33	7400

**TABLE 7**  
**USS LEAD-SLRE**  
**INORGANIC SOIL DATA COMPARED TO HUMAN HEALTH SCREENINGN CRITERIA**  
**Units (mg/kg)**

Sample ID	* Sample Depth	Screening Criteria	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Ni	Se	Ag	Tl	Sn	V	Zn
		RISC-Default (mg/kg)	37	20	5,900	2,300	77	120	NA	2,700	230	32	2,700	53	87	10	NA	NA	10,000
		RISC-CW (mg/kg)	460	320	79,000	2,300	590	3,400	NA	42,000	970	340	23,000	5,700	5,700	80	NA	NA	340,000
		RISC-DC (mg/kg)	620	20	98,000	2,900	990	650	NA	57,000	1,300	470	31,000	7,800	7,800	110	NA	NA	470,000
		RISC-Mig (mg/kg)	37	29	5,900	3,200	77	120	NA	2,700	230	32	2,700	53	87	10	NA	NA	38,000
Wetland Area (cont'd of GAVIE) - continued																			
MRFI-SS-10B	.5	6"-12"	9.2 N	20	17	0.14	2.20	4.4	2.5	6.4	84 N	0.12	15	0.22 B	0.34 U	9.3	0.074 B	4.8	770
MRFI-SS-11B	5	6"-12"	38 N	61	100	1.1	0.73	19	15	45	200 N	0.19	25	1.1	0.37 U	5.5	0.36	20	200
SS-22-02	3	18"-24"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-31-08D	4	24"-30"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	365	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-31-09B	4	24"-30"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-31-11D	4	24"-30"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	90.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-31-09C	4	30"-36"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	283	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-31-10C	4	30"-36"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	267	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-04-024	2	3'	21 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	87	N/A	32	N/A	N/A	N/A	N/A	N/A	190
SS-22-01	3	3.25'	26.5	122	N/A	N/A	9.7	N/A	N/A	N/A	617	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-22-03	3	3.5'	1.3	5.2	N/A	N/A	0.098 U	N/A	N/A	N/A	27.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-04-025	2	4'	14 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	17	N/A	24	N/A	N/A	N/A	N/A	N/A	85
SS-04-026	2	5'	14 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18	N/A	28	N/A	N/A	N/A	N/A	N/A	82
Dune/Swale Area (North and west of CAMU) - continued																			
SS-02-01	2	0-6"	85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	655	N/A	8.7	N/A	N/A	N/A	N/A	N/A	530
SS-02-03	2	0-6"	78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	438	N/A	7.5	N/A	N/A	N/A	N/A	N/A	628
SS-02-04	2	0-6"	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	62
MRFI-SS-14	5	0-6"	13	12	N/A	N/A	0.14	N/A	N/A	N/A	24 N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	28
MRFI-SS-15A	5	0-6"	4.8	12	6.8	N/A	0.61	2.4	N/A	N/A	5.6	0.012 B	2.2	N/A	0.32 U	2.1	N/A	3.5	11
MRFI-SS-17	5	0-6"	46	59	N/A	N/A	2.50	N/A	N/A	N/A	470	N/A	N/A	N/A	N/A	N/A	N/A	N/A	680
MRFI-SS-18	5	0-6"	16	15	13	N/A	1.10	4.8	N/A	N/A	150	0.17	4.3	N/A	0.35 U	27	N/A	5.7	200
MRFI-SS-19	5	0-6"	160	65	N/A	N/A	3.30	N/A	N/A	N/A	820	N/A	N/A	N/A	N/A	N/A	N/A	N/A	630
MRFI-SS-20	5	0-6"	75	81	N/A	N/A	6.10	N/A	N/A	N/A	950	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1300
MRFI-SS-21	5	0-6"	1.7	3.4	6.6	0.073 B	0.13	3.1	1.2	4.2	22	0.013 B	2.7	0.09 B	0.66	4.4	0.03 B	3.6	25
MRFI-SS-22	5	0-6"	29 N	25	N/A	N/A	2.80	N/A	N/A	N/A	580 N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	770
MRFI-SS-23	5	0-6"	100	64	N/A	N/A	2.60	N/A	N/A	N/A	710	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1000
MRFI-SS-24	5	0-6"	4	7.5	N/A	0.1 B	0.12	N/A	1.4	6.5	22	N/A	N/A	0.16 B	N/A	0.03 B	N/A	29	
SS-03-011	2	6"	5.4 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60	N/A	3.1	N/A	N/A	N/A	N/A	N/A	24
SS-06-01	2	6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-04-051	2	6"	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	762	N/A	15	N/A	N/A	N/A	N/A	N/A	658
SS-05-011	2	6"	0.023 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.7 U	N/A	2.9 U	N/A	N/A	N/A	N/A	N/A	10
SS-05-021	2	6"	2.76	5.0	9.7	N/A	0.58 U	3.5	N/A	N/A	34F	0.047 U	2.9 U	N/A	N/A	N/A	N/A	N/A	19
SS-05-031	2	6"	2.54	N/A	N/A	N/A	N/A	N/A	N/A	N/A	33	N/A	2.9 U	N/A	N/A	N/A	N/A	N/A	20
SS-05-041	2	6"	0.024 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.8 U	N/A	3.0 U	N/A	N/A	N/A	N/A	N/A	6.5
SS-06-04	2	6"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-21-04	2	6"	1.5 U/1.6 U	2.1/2.1	N/A	N/A	.10 U/.11 U	N/A	N/A	N/A	1.9/1.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-21-06	2	6"	N/A	1.8	N/A	N/A	N/A	N/A	N/A	N/A	1.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-22-04	4	0-6"	2.4	4.2	N/A	N/A	0.16	N/A	N/A	N/A	3.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-22-05	4	0-6"	0.12 U	6.7	N/A	N/A	0.12 U	N/A	N/A	N/A	5.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-22-06	4	0-6"	10.8	11.7	N/A	N/A	0.67	N/A	N/A	N/A	227	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SS-22-07	4	0-6"	1.0 U	9.5	N/A	N/A	0.073 U	N/A	N/A	N/A	2.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MRFI-SS-15B	5	6"-12"	0.82	2.1	3.2	N/A	0.023 U	2.2	N/A	N/A	1.9	0.0047 U	1.7	N/A	0.33 U	1.8 B	N/A	3.2	7.2
SS-03-012	2	1'	5.8 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.6 U	N/A	2.9 U	N/A	N/A	N/A	N/A	N/A	6.2
SS-03-032	2	1'	5.9 U	7.5	4.3	N/A	0.59 U	2.5	N/A	12 U	5.2	0.047 U	2.9 U	N/A	N/A	N/A	N/A	N/A	10
SS-03-033	2	1'	6.2 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0 U	N/A	3.1 U	N/A	N/A	N/A	N/A	N/A	13
SS-04-052	2	1'	5.4 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11	N/A	2.7 U	N/A	N/A	N/A	N/A	N/A	23

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**TABLE 7**  
**USS LEAD-SLRE**  
**INORGANIC SOIL DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Units (mg/kg)**

Sample ID	*	Sample Depth	Screening Criteria	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Ni	Se	Ag	Tl	Sn	V	Zn
RISC-Default (mg/kg)	37	20	5,900	2,300	77	120	N/A	2,700	230	32	2,700	53	87	10	N/A	N/A	10,000			
RISC-CW (mg/kg)	460	320	79,000	2,300	590	3,400	N/A	42,000	970	340	23,000	5,700	5,700	80	N/A	N/A	340,000			
RISC-DC (mg/kg)	620	20	98,000	2,900	990	650	N/A	57,000	1,300	470	31,000	7,800	7,800	110	N/A	N/A	470,000			
Dose/Swallow Rate (mg/month/m² of CAMD) - continued																				
SS-05-012	2	1'		1.35	N/A	N/A	N/A	N/A	N/A	N/A	4.7 U	N/A	2.9 U	N/A	N/A	N/A	N/A	N/A	8	
SS-05-022	2	1'		0.829	N/A	N/A	N/A	N/A	N/A	N/A	4.7 U	N/A	2.9 U	N/A	N/A	N/A	N/A	N/A	7.4	
SS-05-032	2	1'		2.26	N/A	N/A	N/A	N/A	N/A	N/A	14	N/A	2.9 U	N/A	N/A	N/A	N/A	N/A	15	
SS-05-042	2	1'		0.024 U	N/A	N/A	N/A	N/A	N/A	N/A	4.8 U	N/A	3.0 U	N/A	N/A	N/A	N/A	N/A	8.9	
SS-03-013	2	2'		0.64 U	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	14	
SS-03-034	2	2'		6.3 U	N/A	N/A	N/A	N/A	N/A	N/A	5.0 U	N/A	3.1 U	N/A	N/A	N/A	N/A	N/A	13	
SS-04-053	2	2'		6.4 U	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	7.9	
SS-05-013	2	2'		1.04	N/A	N/A	N/A	N/A	N/A	N/A	5.0 U	N/A	3.7	N/A	N/A	N/A	N/A	N/A	9.7	
SS-05-023	2	2'		2.72	N/A	N/A	N/A	N/A	N/A	N/A	5.0 U	N/A	3.1	N/A	N/A	N/A	N/A	N/A	8	
SS-05-033	2	2'		6.72	N/A	N/A	N/A	N/A	N/A	N/A	5.0 U	N/A	3.1 U	N/A	N/A	N/A	N/A	N/A	9.3	
SS-05-043	2	2'		0.026 U	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	7.4	
SS-06-02	2	2'		6.4U/6.2U	69/72	7.3/7.8	N/A	0.64U/0.62U	2.9/3.1	N/A	13 U/12 U	5.2/5.0U	0.051U/0.050U	3.2U/3.1U	N/A	N/A	N/A	N/A	N/A	10/9.0
SS-03-014	2	3'		6.7 U	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	3.3 U	N/A	N/A	N/A	N/A	N/A	12	
SS-04-014	2	3'		6.3 U	N/A	N/A	N/A	N/A	N/A	N/A	70	N/A	4.2 U	N/A	N/A	N/A	N/A	N/A	11	
SS-04-054	2	3'		6.3 U	N/A	N/A	N/A	N/A	N/A	N/A	8.4	N/A	3.1 U	N/A	N/A	N/A	N/A	N/A	15	
SS-05-014	2	3'		2.85	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	5.3	N/A	N/A	N/A	N/A	N/A	10	
SS-05-024	2	3'		4.82	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	11	
SS-05-034	2	3'		4.89	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.4	N/A	N/A	N/A	N/A	N/A	10	
SS-05-044	2	3'		0.888	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	3.3 U	N/A	N/A	N/A	N/A	N/A	8.4	
SS-03-015	2	4'		6.7 U	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	3.3 U	N/A	N/A	N/A	N/A	N/A	20	
SS-04-015	2	4'		6.5 U	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	3.3 U	N/A	N/A	N/A	N/A	N/A	12	
SS-03-035	2	4'		6.6 U	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	3.3 U	N/A	N/A	N/A	N/A	N/A	9.1	
SS-04-055	2	4'		6.6 U	N/A	N/A	N/A	N/A	N/A	N/A	5.3	N/A	3.7	N/A	N/A	N/A	N/A	N/A	19	
SS-05-015	2	4'		1.41	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.3	N/A	N/A	N/A	N/A	N/A	11	
SS-05-025	2	4'		1.19	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	3.3 U	N/A	N/A	N/A	N/A	N/A	9.5	
SS-05-035	2	4'		2.76	N/A	N/A	N/A	N/A	N/A	N/A	1.3 U	N/A	2.5 U	N/A	N/A	N/A	N/A	N/A	9.6	
SS-05-045	2	4'		0.026 U	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	16	
SS-03-016	2	5'		6.5 U	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	11	
SS-03-036	2	5'		6.3 U	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	9.1	
SS-04-016	2	5'		6.4 U	N/A	N/A	N/A	N/A	N/A	N/A	6.4 U	N/A	5.1 U	N/A	N/A	N/A	N/A	N/A	10	
SS-04-056	2	5'		6.6 U	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	3.8	N/A	N/A	N/A	N/A	N/A	17	
SS-05-016	2	5'		2.57	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.3	N/A	N/A	N/A	N/A	N/A	11	
SS-05-026	2	5'		3.38	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	9.9	
SS-05-036	2	5'		3.66	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	3.3 U	N/A	N/A	N/A	N/A	N/A	9.7	
SS-05-046	2	5'		0.025 U	N/A	N/A	N/A	N/A	N/A	N/A	5.1 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	7.8	
Dose/Swallow Rate (mg/month/m² of CAMD) - continued																				
SS-23-01	2	0		N/A	N/A	N/A	N/A	N/A	N/A	N/A	434	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SS-02-05	2	0-6"		30	N/A	N/A	N/A	N/A	N/A	N/A	365	N/A	5.8	N/A	N/A	N/A	N/A	N/A	263	
SS-02-06	2	0-6"		35	N/A	N/A	N/A	N/A	N/A	N/A	168	N/A	8.8	N/A	N/A	N/A	N/A	N/A	259	
SS-04-031	2	0-6"		5.7 U	N/A	N/A	N/A	N/A	N/A	N/A	148	N/A	11	N/A	N/A	N/A	N/A	N/A	205	
SS-04-041	2	6"		14	N/A	N/A	N/A	N/A	N/A	N/A	712	N/A	21	N/A	N/A	N/A	N/A	N/A	724	
SS-04-042	2	1'		5.3 U	N/A	N/A	N/A	N/A	N/A	N/A	19	N/A	2.7 U	N/A	N/A	N/A	N/A	N/A	35	
SS-04-043	2	2'		5.5 U	N/A	N/A	N/A	N/A	N/A	N/A	10	N/A	2.8 U	N/A	N/A	N/A	N/A	N/A	34	
SS-04-044	2	3'		6.6 U	N/A	N/A	N/A	N/A	N/A	N/A	5.3 U	N/A	4.6	N/A	N/A	N/A	N/A	N/A	42	
SS-04-045	2	4'		6.6 U	N/A	N/A	N/A	N/A	N/A	N/A	6.3	N/A	5.8	N/A	N/A	N/A	N/A	N/A	24	
SS-04-046	2	5'		6.5 U	N/A	N/A	N/A	N/A	N/A	N/A	5.2 U	N/A	3.5	N/A	N/A	N/A	N/A	N/A	13	

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**TABLE 7**  
**USS LEAD-SLRE**  
**INORGANIC SOIL DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Units (mg/kg)**

Sample ID	*	Sample Depth	Screening Criteria	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Ni	Se	Ag	Tl	Sn	V	Zn
		RISC-Default (mg/kg)		37	20	5,900	2,300	77	120	NA	2,700	230	32	2,700	53	87	10	NA	NA	10,000
		RISC-CW (mg/kg)		460	320	79,000	2,300	590	3,400	NA	42,000	970	340	23,000	5,700	5,700	80	NA	NA	340,000
		RISC-DC (mg/kg)		620	20	98,000	2,900	990	650	NA	57,000	1,300	470	31,000	7,800	7,800	110	NA	NA	470,000
		RISC-Mig (mg/kg)		37	29	5,900	3,200	77	120	NA	2,700	230	32	2,700	53	87	10	NA	NA	38,000
<b>From CAMU</b>																				
MRFI-F-12	5	0-6"		2.9 N	7.3	N/A	0.062 B	0.28 U	N/A	2.1	1.3	14 N	N/A	N/A	0.63 U	N/A	N/A	0.25 U	N/A	13
MRFI-F-13	5	0-6"		13 N	36	N/A	N/A	0.27	N/A	N/A	N/A	24 N	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19
CT1 (+)	3	4'-8'		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CT2 (+)	3	4'-8'		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CT3 (+)	3	4'-8'		13 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	24	N/A	4.1	N/A	N/A	N/A	N/A	N/A	26
CT4 (+)	3	4'-8'		12 U	10	7.3	N/A	1.2	2.6	N/A	12 U	7.3	0.09	3.1 U	N/A	N/A	N/A	N/A	N/A	11
CT5 (+)	3	4'-8'		13 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.2	0.078	5.2	N/A	N/A	N/A	N/A	N/A	27
CT6 (+)	3	4'-8'		14 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.2	N/A	617	N/A	N/A	N/A	N/A	N/A	17
CT7 (+)	3	4'-8'		13 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	64	N/A	7.5	N/A	N/A	N/A	N/A	N/A	172
CT8 (+)	3	4'-8'		13 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.4 U	N/A	3.6	N/A	N/A	N/A	N/A	N/A	27
CT9 (+)	3	4'-8'		13 U	5.6	7.3	N/A	N/A	3.7	N/A	N/A	5.1 U	N/A	3.2 U	N/A	N/A	N/A	N/A	N/A	14
CT10 (+)	3	4'-8'		14 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	84	N/A	12	N/A	N/A	N/A	N/A	N/A	471
<b>From CAMU</b>																				
MRFI-F-3	5	0-6"		1.4	2.4	N/A	0.079 B	0.057	N/A	2.7	2.4	5.2 N	N/A	N/A	0.65 U	N/A	N/A	0.26 U	N/A	14
MRFI-F-4	5	0-6"		3.6	8	N/A	0.067 B	1.30	N/A	2	1.5	22 N	N/A	N/A	0.56 U	N/A	N/A	0.25	N/A	14

N/A = Sample either not analyzed or data were not found in the reports available

Bold - Exceedence of screening criteria

Data Qualifiers:

B= indicates analyte result between the instrument detection limit and contract required detection limit; This data qualifer was undefined by the facility for the July 2003 data from the MRFI Report.

N= Undefined by the facility

U= undetected at concentration listed

\*Data Citations:

1) Draft Interim Stabilization Measures and Implementation Report, November 6, 2001;

2) Site-wide Sampling and Analysis Report, July 24, 2001;

3) Soil Sampling Results, Canal Access Road and Holding Ponds, August, 28, 2001;

4) "Figure 1, USS Lead Refinery Site, Current Site Conditions, Lead Concentrations", provided to EPA via e-mail by GeoChemical Solutions on October 4, 2001 (the figure is undated);

5) Final USS Lead Modified RCRA Facility Investigation (MRFI) Report, July 2003 Sampling Event, March 1, 2004.

Screening Criteria:

RISC-Default - IDEM RISC Default Closure Level for Industrial Exposures

RISC-CW - IDEM RISC Closure Level for Construction Exposures

RISC-DC - IDEM RISC Closure Level for Direct Contact (Industrial)

RISC-Mig - IDEM RISC Closure Level for Migration to Groundwater (Industrial)

**TABLE 8**  
**USS LEAD-SLRE**  
**INORGANIC SURFACE WATER DATA COMPARED TO INDIANA WATER QUALITY CRITERIA**  
**Units (mg/L; Mercury in ug/L)**

	<b>Sample ID</b>	<b>SW-02-04</b>	<b>MRFI-SW-6</b>	<b>MRFI-SW-10</b>	<b>SW-02-05</b>	<b>MRFI-SW-1</b>	<b>MRFI-SW-2</b>	<b>MRFI-SWD-1</b>	<b>MRFI-SW-13</b>	<b>IWQC for Human Health</b>
	<b>Sample Date</b>	<b>2001*</b>	<b>7/8/2003</b>	<b>7/9/2003</b>	<b>2001*</b>	<b>7/8/2003</b>	<b>7/8/2003</b>	<b>7/8/2003</b>	<b>7/8/2003</b>	
	<b>Hardness</b>	<b>N/A</b>	<b>372</b>	<b>1110</b>	<b>N/A</b>	<b>151</b>	<b>179</b>	<b>141</b>	<b>246</b>	
	<b>Screening Criteria</b>									
Antimony		0.045	0.015 B	0.027	0.044	<b>0.17 B</b>	0.012 U	0.016 B	0.03	0.146 (T)
Arsenic		<b>0.0355</b>	<b>0.24</b>	<b>0.038</b>	<b>0.104</b>	<b>0.069</b>	<b>0.61</b>	<b>0.068</b>	<b>0.22</b>	0.000022 (C)
Barium		0.04	N/A	0.037	0.075	N/A	0.04	N/A	N/A	1.0 (D)
Beryllium		<i>0.040 U</i>	N/A	<i>0.00017 U</i>	<i>0.040 U</i>	N/A	<i>0.00017 U</i>	N/A	N/A	0.000068 (C)
Cadmium		<i>0.010 U</i>	0.00044 U	<i>0.00087 B</i>	<i>0.010 U</i>	0.00044 U	0.00044 U	0.00044 U	0.00044 U	0.01 (D)
Chromium		0.040 U	N/A	0.0015 U	0.040 U	N/A	0.0015 U	N/A	N/A	0.05 (D)
Cobalt		N/A	N/A	0.001 U	N/A	N/A	0.001 U	N/A	N/A	N/A
Copper		0.020 U	N/A	0.0038 B	0.020 U	N/A	0.0028 B	N/A	N/A	N/A
Lead		<i>0.100 U</i>	0.0028	0.0052	<i>0.100 U</i>	0.002	0.0017	0.0019	0.0088	0.05 (D)
Mercury		<i>0.0002 U</i>	N/A	<i>0.0017 J</i>	<i>0.0002 U</i>	N/A	<i>0.0036 J</i>	N/A	N/A	0.14 (T)
Nickel		<i>0.050 U</i>	N/A	0.016	<i>0.050 U</i>	N/A	0.0019 U	N/A	N/A	0.0134 (T)
Selenium		<i>0.0050 U</i>	N/A	0.005 U	<i>0.0050 U</i>	N/A	0.005 U	N/A	N/A	0.01 (D)
Silver		0.040 U	N/A	0.0050 U	0.040 U	N/A	0.0050 U	N/A	N/A	0.05 (D)
Thallium		<i>0.002 U</i>	N/A	<i>0.00059</i>	<i>0.002 U</i>	N/A	<i>0.001 U</i>	N/A	N/A	0.013 (T)
Tin		N/A	N/A	0.0033 U	N/A	N/A	0.0033 U	N/A	N/A	N/A
Vanadium		N/A	N/A	0.0021 U	N/A	N/A	0.0021 U	N/A	N/A	N/A
Zinc		0.020 U	0.023	0.27	0.020 U	0.032	0.019 B	0.032	0.018 B	N/A

All concentrations are given in mg/L except Mercury. The detected concentrations and screening criteria for Mercury are depicted in ug/L.

**Bold** indicates an exceedance of human health screening criteria.

*Italics* indicates the constituent was undetected at concentration listed, however the concentration listed exceeds the human health surface water criterion.

N/A = Sample either not analyzed or data not available

\* As reported by USS Lead, in 2001 Second Quarterly Report

MRFI Report, dated March 2004 -- July 2003 Sampling Data

Data Qualifiers:

B= undefined by the facility

J= estimated value

U= undetected at concentration listed

Indiana Water Quality Criteria for Human Health at Point of Water Intake (Indiana Administrative Code, Article 2)

T - Derived from threshold toxicity

C - Derived from nonthreshold cancer risk

D - Derived from drinking water standards, equal to or less than threshold toxicity

**TABLE 9**  
**USS LEAD-SLRE**  
**ORGANIC SOIL DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Collected July 2003**  
**Units (ug/kg)**

Parameter	RISC-Default	RISC-CW	RISC-DC	RISC-Mig	Sample ID	MRFI-F-12	MRFI-SS-11A	MRFI-SS-11B	MRFI-SS-9A	MRFI-SS-9B	MRFI-SSD-1
					Location	Canal	Wetlands	Wetlands	Wetlands	Wetlands	X
					Sample depth	0-6"	0-6"	6"-24"	0-6"	6"-24"	X
					Sample Date	7/8/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003
Acenaphthylene	180,000	5,900,000	2,800,000	180,000		<1.2	330 J	5.8 J	300 J	540 J	790
Acetone	370,000	34,000,000	6,300,000	370,000		19	880 AB	290 AB	1900 A	410 A	870 A
Anthracene	51,000	250,000,000	120,000,000	51,000		<1.1	260 J	3.6 J	250 J	3800	5400
Benzene	350	560,000	13,000	350		<0.63	<2.2	<0.95	<3.7	<1.9	<1.3
Benzo(a)anthracene	15,000	790,000	15,000	62,000		<1.4	870	13 J	670 J	36000 M	42000
Benzo(a)pyrene	1,500	79,000	1,500	16,000		<2.8	810	<3	740	53000 H	63000 H
Benzo(b)fluoranthene	15,000	790,000	15,000	74,000		<2.7	1100 M	25 J	1700 M	17000 M	16000 M
Benzo(g,h,i)perylene	16,000	7,900,000	150,000	16,000		13 J	4600	130	1700	14000	15000
Benzo(k)fluoranthene	39,000	7,900,000	150,000	39,000		<3.6	230 J	<3.8	410 J	20000 M	22000 M
Bis(2-chloroethoxy)methane	NA	NA	NA	NA		<3.7	<37	<3.9	<61	<73	<66
Bis(2-ethylhexyl)phthalate	980,000	18,000,000	980,000	120,000,000		<12	160 J	<13	530 J	<240	<220
Bromodichloromethane	510	2,100,000	17,000	510		<0.65	<2.3	<0.98	<3.8	<1.9	<1.3
Bromoform	2,700	7,700,000	580,000	2,700		<0.87	<3	<1.3	<5.1	<2.6	<1.8
Bromomethane	NA	NA	NA	NA		<2.8	25	<4.2	<16	<8.2	<5.7
Butyl benzyl phthalate	310,000	180,000,000	98,000,000	6,200,000		<5.3	<53	<5.6	<87	<100	<93
Carbazole	20,000	31,000,000	690,000	20,000		<45	<450	<48	<740	<880	<790
Carbon disulfide	82,000	6,200,000	1,200,000	82,000		<1.9	<6.6	<2.9	<11	<5.7	26
Carbon tetrachloride	290	31,000	5,200	290		<0.79	<2.8	<1.2	<4.6	<2.4	<1.6
Chlorobenzene	27,000	2,600,000	510,000	27,000		<0.87	<3	<1.3	<5.1	<2.6	<1.8
Chloroethane	10,000	16,000,000	120,000	10,000		<1.5	<5.3	<2.3	<8.9	<4.6	<3.2
Chloroform	1,200	6,400	1,200	6,000		<0.59	<2.1	<0.9	<3.5	<1.8	<1.2
Chloromethane	NA	NA	NA	NA		<0.89	<3.1	<1.4	<5.2	<2.7	<1.9
Chrysene	25,000	79,000,000	1,500,000	25,000		15 J	2800	58	1400	140000	130000 H
Dibenz(a,b)anthracene	1,500	79,000	1,500	60,000		<2.8	450	10 J	<47	7300	7900
cis-1,3-Dichloropropene	200	290,000	16,000	200		<0.75	<2.6	<1.1	<4.4	<2.2	<1.6
Dibenzo(f,g)furan	65,000	1,800,000	980,000	65,000		<3.5	130 J	<3.7	230 J	220 J	340 J
Dibromochloromethane	NA	NA	NA	NA		<0.66	<2.3	<1	<3.8	<2	<1.4
Diethyl phthalate	840,000	710,000,000	390,000,000	1,300,000		<4.8	<48	<5	<78	<93	<84
Dimethyl phthalate	1,100,000	1,000,000,000	1,000,000,000	734,000,000		<4.7	<46	<4.9	<76	<90	<82
Di-n-butyl phthalate	760	89,000,000	49,000,000	14,000,000		<26	<260	<27	<420	<500	<450
Di-n-octyl phthalate	2,000,000	18,000,000	9,800,000	67,000,000		<11	<110	<12	<180	<220	<200
Ethylbenzene	160,000	29,000,000	6,800,000	200,000		<1	<3.7	<1.6	<6.1	<3.1	<2.2
Fluoranthene	880,000	33,000,000	16,000,000	880,000		6.7 J	840	11 J	1100	34000 H	24000 H
Fluorene	1,100,000	33,000,000	16,000,000	1,100,000		<2.1	98 J	<2.2	150 J	10000	16000
Hexachlorobenzene	3,900	390,000	8,600	3,900		<2.3	<23	<2.4	<38	<45	<41
Hexachlorobutadiene	NA	NA	NA	NA		<4.3	<43	<4.5	<70	<83	<75
Hexachlorocyclopentadiene	720,000	5,300,000	2,900,000	4,900,000		<70	<700	<73	<1100	<1400	<1200
Hexachloroethane	7,700	660,000	240,000	7,700		<4.3	<43	<4.5	<70	<83	<75
Indeno(1,2,3-cd)pyrene	3,100	790,000	15,000	3,100		4.2 J	880	16 J	1400	7300	8000
Isophorone	18,000	180,000,000	14,000,000	18,000		<3.1	<31	<3.3	<51	<60	<54
Methylene chloride	1,800	22,000,000	200,000	1,800		<1.7	<6	<2.6	<10	<5.1	3.6

**TABLE 9**  
**USS LEAD-SLRE**  
**ORGANIC SOIL DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Collected July 2003**  
**Units (ug/kg)**

Parameter	RISC-Default	RISC-CW	RISC-DC	RISC-Mig	Sample ID	MRFI-F-12	MRFI-SS-11A	MRFI-SS-11B	MRFI-SS-9A	MRFI-SS-9B	MRFI-SSD-1
					Location	Canal	Wetlands	Wetlands	Wetlands	Wetlands	X
					Sample depth	0-6"	0-6"	6"-24"	0-6"	6"-24"	
					Sample Date	7/8/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003
1,1,1-Trichloroethane	280,000	34,000,000	6,700,000	280,000		<0.58	<2	<0.88	<3.4	<1.7	<1.2
1,1,2,2-Tetrachloroethane	110	960,000	8,700	110		<0.61	<2.1	<0.93	<3.6	<1.8	<1.3
1,1,2-Trichloroethane	300	600,000	15,000	300		<0.68	<2.4	<1	<4	<2	<1.4
1,1-Dichloroethane	58,000	8,600,000	1,700,000	58,000		<0.84	<2.9	<1.3	<4.9	<2.5	<1.7
1,1-Dichloroethene	42,000	2,200,000	410,000	42,000		<0.95	<3.3	<1.4	<5.6	<2.8	<2
1,2,4-Trichlorobenzene	77,000	8,900,000	4,900,000	77,000		<76	<760	<80	<1200	<1500	<1300
1,2-Dichlorobenzene	220,000	18,000,000	3,900,000	220,000		<100	<1000	<110	<1700	<2000	<1800
1,2-Dichloroethane	150	150,000	5,800	150		<0.55	<1.9	<0.84	<3.2	<1.6	<1.1
1,2-Dichloroethene (cis-)	5,800	750,000	140,000	5,800		<1.8	<6.3	<2.7	<11	<5.4	<3.8
1,2-Dichloropropane	250	100,000	7,200	250		<0.91	<3.2	<1.4	<5.4	<2.7	<1.9
1,3-Dichlorobenzene	2,700	250,000	58,000	2,700		<100	<1000	<110	<1700	<2000	<1800
1,4-Dichlorobenzene	3,400	8,000,000	73,000	3,400		<92	<920	<96	<1500	<1800	<1600
2,2-oxybis (1-chloropropane)	NA	NA	NA	NA		<97	<970	<100	1600	1900	<1700
2,4,5-Trichlorophenol	690,000	89,000,000	49,000,000	690,000		<49	<490	<52	<800	<950	<860
2,4,6-Trichlorophenol	200	89,000	49,000	200		<61	<610	<64	<90	<1200	<1100
2,4-Dichlorophenol	3,000	2,700,000	1,500,000	3,000		<62	<620	<65	<1000	<1200	<1100
2,4-Dimethylphenol	25,000	18,000,000	9,800,000	25,000		<78	<770	<81	<1300	<1500	<1400
2,4-Dinitrophenol	820	1,800,000	980,000	820		<150	<1500	<150	<2400	<2900	<2600
2,4-Dinitrotoluene	31	890,000	20,000	31		<2.2	<22	<2.3	<36	<43	<38
2,6-Dinitrotoluene	31	890,000	20,000	31		<2.8	<28	<3	<47	<55	<50
2-Butanone (MEK)	25,000	260,000,000	70,000,000	25,000		<4	87	29	170	46	200
2-Chloronaphthalene	560,000	71,000,000	39,000,000	560,000		<62	<620	<65	<1000	<1200	<1100
2-Chlorophenol	10,000	2,200,000	580,000	10,000		<76	<760	<80	<1200	<1500	<1300
2-Hexanone	NA	NA	NA	NA		<1.6	<5.6	<2.5	<9.5	<4.8	<3.4
2-Methylnaphthalene	210,000	17,000,000	8,000,000	210,000		<1.9	320 J	5.6 J	190 J	400 J	430 J
2-Methylphenol (o-cresol)	39,000	39,000,000	17,000,000	39,000		<11	<110	<11	<180	<210	<190
2-Nitroaniline	36	51,000	28,000	36		<44	<440	<46	<720	<850	<770
2-Nitrophenol	NA	NA	NA	NA		<81	<810	<86	<1300	<1600	<1400
3,3-Dichlorobenzidine	210	1,400,000	31,000	210		<23	<230	<24	<80	<450	<410
3-Nitroaniline	NA	NA	NA	NA		<140	<1400	<150	<2300	<2800	<2500
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA		<120	<1200	<130	<2000	<2400	<2200
4-Bromophenyl phenyl ether	NA	NA	NA	NA		<4	<40	<4.2	<66	<78	<70
4-Chloro-3-methylphenol	NA	NA	NA	NA		<49	<490	<52	<800	<950	<860
4-Chloroaniline	NA	NA	NA	NA		<130	<1300	<140	<2100	<2500	<2300
4-Chlorophenyl phenyl ether	NA	NA	NA	NA		<4.7	<46	<4.9	<76	<90	<82
4-Methyl-2-pentanone (MIBK)	75,000	64,000,000	29,000,000	75,000		<2.9	<10	<4.3	<17	<8.5	<5.9
4-Methylphenol (m/p-cresol)	3,000	4,400,000	2,500,000	3,000		<7.5	<75	<7.9	<120	<150	<130
4-Nitroaniline	NA	NA	NA	NA		<50	<500	<53	<830	<980	<880
4-Nitrophenol	NA	NA	NA	NA		<110	<1100	<110	<1700	<2100	<1900
Acenaphthene	1,200,000	50,000,000	24,000,000	1,200,000		<1.8	39 J	<1.9	130 J	1300	1200 H

**TABLE 9**  
**USS LEAD-SLRE**  
**ORGANIC SOIL DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Collected July 2003**  
**Units (ug/kg)**

Parameter	RISC-Default	RISC-CW	RISC-DC	RISC-Mig	Sample ID	MRFI-F-12	MRFI-SS-11A	MRFI-SS-11B	MRFI-SS-9A	MRFI-SS-9B	MRFI-SSD-1
					Location	Canal	Wetlands	Wetlands	Wetlands	Wetlands	X
					Sample depth	0-6"	0-6"	6"-24"	0-6"	6"-24"	X
					Sample Date	7/8/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003	7/9/2003
Naphthalene	170,000	17,000,000	8,000,000	170,000		<2.2	750	15 J	200 J	580 J	460 J
Nitrobenzene	340	440,000	250,000	340		<3.2	<32	<3.4	<53	<63	<57
n-Nitroso-di-n-propylamine	2	89,000	2,000	2		<3	<30	<3.1	<49	<58	<52
n-Nitrosodiphenylamine	32,000	130,000,000	2,800,000	32,000		<3.7	<37	<3.9	<61	<73	<66
Pentachlorophenol	660	3,800,000	54,000	660		<130	<1300	<140	<2100	<2500	<2300
Phenanthrene	17,000	2,500,000	1,200,000	170,000		<1.3	1600	30 J	810	3500	3100 H
Phenol	160,000	230,000,000	96,000,000	160,000		<2.1	<21	<2.2	<34	<40	<36
Pyrene	570,000	25,000,000	12,000,000	570,000		22 J	1500	31 J	1100	160000	160000
Styrene	550,000	68,000,000	16,000,000	720,000		<0.95	<3.3	<1.4	<5.6	<2.8	<2
Tetrachloroethene	640	720,000	27,000	640		<0.64	<2.2	<0.97	<3.7	<1.9	<1.3
Toluene	240,000	11,000,000	2,200,000	240,000		<0.95	<3.3	<1.4	<5.6	<2.8	<2
trans-1,3-Dichloropropene	200	290,000	16,000	200		<0.8	<2.8	<1.2	<4.7	<2.4	<1.7
Trichloroethene	82	150,000	1,100	82		<0.56	<2	<0.85	<3.3	<1.7	<1.2
Vinyl chloride	13	250,000	3,100	13		<0.7	<2.5	<1.1	<4.1	<2.1	<1.5
Xylenes (total)	170,000	4,800,000	890,000	430,000		<2.8	<9.6	<4.2	<16	<8.2	<5.7

Concentrations are in ug/kg.

**Bold** - Indicates an exceedence of the screening criteria

"<" indicates the constituent was undetected up to the concentration listed.

X - The exact location and sample depth of MRFI-SSD-1 remain unclear. However, it is likely that this sample was collected from the wetland area.

RISC-Default - IDEM RISC Default Closure Level (January 2004)

RISC-CW - IDEM RISC Closure Level for Construction Exposure (January 2004)

RISC-DC - IDEM RISC Closure Level for Industrial Direct Contact (January 2004)

RISC-Mig - IDEM RISC Closure Level based on Migration to Groundwater (January 2004)

Source:

Final USS Lead Modified RCRA Facility Investigation (MRFI) Report, dated March 1, 2004

The MRFI Report organic data table, Table 19, uses nonstandard data qualifiers that were not defined in the footnotes. Therefore, the data qualifiers have not been defined in this screening table.

**TABLE 10**  
**USS LEAD-SLRE**  
**PCB SOIL DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Collected July 2003**  
**Units (ug/kg)**

Sample ID	Sample Depth	RISC-Default	RISC-CW	RISC-DC	RISC-Mig	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
<b>Wetlands (south of CAMU)</b>												
MRFI-SS-9A	0-6"	1,800	16,000	1,800	6,200	120 U	280 U	130 U	270 U	<b>2,500</b>	110 U	110 U
MRFI-SS-11A	0-6"	1,800	16,000	1,800	6,200	37 U	86 U	39 U	81 U	30 U	35 U	220
MRFI-SSD-1	X	1,800	16,000	1,800	6,200	110 U	250 U	110 U	230 U	84 U	99 U	92 U
MRFI-SS-9B	6"-24"	1,800	16,000	1,800	6,200	120 U	270 U	120 U	260 U	94 U	110 U	100 U
MRFI-SS-11B	6"-24"	1,800	16,000	1,800	6,200	3.9 U	9.1 U	4.1 U	8.6 U	3.1 U	3.7 U	3.4 U
<b>Canal</b>												
MRFI-F-12	0-6"	1,800	16,000	1,800	6,200	3.7 U	8.6 U	3.9 U	8.1 U	3.0 U	3.5 U	3.2 U

**Bold** - Indicates an exceedence of the screening criteria

Units are in ug/kg.

U= undetected at concentration listed

RISC-Default - IDEM RISC Default Closure Level (January 2004)

RISC-CW - IDEM RISC Closure Level for Construction Exposure (January 2004)

RISC-DC - IDEM RISC Closure Level for Industrial Direct Contact (January 2004)

RISC-Mig - IDEM RISC Closure Level based on Migration to Groundwater (January 2004)

X - The exact location and sample depth of MRFI-SSD-1 remain unclear. However, it is likely that this sample was collected from the wetland area.

Source: Final USS Lead Modified RCRA Facility Investigation (MRFI) Report, March 1, 2004

**TABLE 11**  
**USS LEAD-SLRE**  
**GROUNDWATER DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Units (mg/L; Mercury in ug/L)**

Screening Value											
RISC-Default		0.51		0.0072		NA		NA		31	
MCL		NA		0.002		NA		NA		NA	
Habitat	Depth to Groundwater (feet below top of casing)	2nd Quarter 2001	Silver July 2003	2nd Quarter 2001	Thallium 2001 July 2003	Tin July 2003	Vanadium July 2003	2nd Quarter 2001	Zinc July 2003		
<b>GROUND WATER</b>											
<b>Habitat Area - Wetland (South of CAMU)</b>											
MW-6	3.49'	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.001 U	0.0033 U	0.0039 B	N/A	0.017	
MW-9	10.21'	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.001 U	0.0033 U	0.0023 B	N/A	0.1	
MW-10	10.35'	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.001 U	0.0033 U	0.0021 U	N/A	0.26	
MW-11	4.09'	N/A	0.005 U	<b>0.0102</b>	<b>0.0133</b>	0.001 U	0.0033 U	0.0021 U	N/A	0.010	
MW-12	3.45'	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.001 U	0.0033 U	0.0022 B	N/A	0.010	
<b>Habitat Area - Wetland (North and West of CAMU)</b>											
MW-2	not available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-3	7.46'	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.001 U	0.0033 U	0.0021 U	N/A	0.015	
MW-4	6.15'	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.001 U	0.0033 U	0.0021 U	N/A	0.010	
MW-5	5.2'	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.001 U	0.0033 U	0.0021 U	N/A	0.21	
MW-7	4.05'	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.001 U	0.0033 U	0.0021 U	N/A	0.010	
MW-8	X	N/A	0.005 U	N/A	N/A	0.001 U	0.0033 U	0.0021 U	N/A	0.010	
MW-13	X	N/A	0.005 U	N/A	N/A	0.001 U	0.0033 U	0.0039 B	N/A	0.010	
MW-18	10.53'	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.0029	0.0033 U	0.0021 U	N/A	0.012	E
MW-21	6.98'	N/A	0.005 U	<b>0.0074</b> U	0.0094 B	0.00025 B	0.0033 U	0.0021 U	N/A	0.033	
MW-23	X	N/A	0.005 U	N/A	N/A	0.001 U	0.0033 U	0.0021 U	N/A	0.015	
MW-25	11.3'	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.00023 B	0.0033 U	0.0021 U	N/A	0.017	
<b>Habitat Area - E. of CAMU</b>											
MW-15	X	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.001 U	0.0033 U	0.0021 U	N/A	0.016	E
<b>Habitat Area - North of Site</b>											
MW-1	5.85'	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.001 U	0.0033 U	0.0029 B	N/A	0.010	
MW-14	6.09'	N/A	0.005 U	<b>0.0074</b> U	<b>0.0074</b> U	0.001 U	0.0033 U	0.0021 U	N/A	0.015	

**TABLE 11**  
**USS LEAD-SLRE**  
**GROUNDWATER DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Units (mg/L; Mercury in ug/L)**

**TABLE 11**  
**USS LEAD-SLRE**  
**GROUNDWATER DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Units (mg/L; Mercury in ug/L)**

Screening Value											
RISC-Default		0.041			0.05			7.2		0.2	
MCL		0.006			0.05			2		0.004	
Habitat	Depth to Groundwater (feet below top of casing)	Antimony			Arsenic			Barium		Beryllium	
<b>GROUND WATER</b>		2nd Quarter 2001	3rd Quarter 2001	July 2003	2nd Quarter 2001	3rd Quarter 2001	July 2003	2nd Quarter 2001	July 2003	2nd Quarter 2001	July 2003
<b>HABITAT AREA - Wetland (South of CAMP)</b>											
MW-6	3.49'	0.0111 U	0.0111 U	0.012 U	0.0089	0.0053 U	0.0052 U	N/A	0.11	N/A	0.000
MW-9	10.21'	0.0111 U	0.0111 U	0.012 U	0.198	0.157	0.21	N/A	0.062	N/A	0.000
MW-10	10.35'	0.0111 U	0.0111 U	0.012 U	0.332	0.426	1.7	N/A	0.047	N/A	0.000
MW-11	4.09'	0.0111 U	0.0111 U	0.012 U	0.0129	0.0053 U	0.0052 U	N/A	0.099	N/A	0.000
MW-12	3.45'	0.0111 U	0.0111 U	0.012 U	0.0144	0.0053 U	0.0052 U	N/A	0.4	N/A	0.000
<b>HABITAT AREA - Wetland (North and West of CAMP)</b>											
MW-2	not available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-3	7.46'	0.0111 U	0.0111 U	0.012 U	0.0053 U	0.0053 U	0.0052 U	N/A	0.019	N/A	0.000
MW-4	6.15'	0.295	0.0144 B	0.012 U	0.021	0.0348	0.023	N/A	0.021	N/A	0.000
MW-5	5.2'	0.0118	0.0154 B	0.019 B	0.0982	0.184	0.13	N/A	0.019	N/A	0.000
MW-7	4.05'	0.0111 U	0.0111 U	0.012 U	0.928	0.564	0.82	N/A	0.077	N/A	0.000
MW-8	X	N/A	N/A	0.012 U	N/A	N/A	0.0052 U	N/A	0.13	N/A	0.000
MW-13	X	N/A	N/A	0.012 U	N/A	N/A	0.0052 U	N/A	0.023	N/A	0.000
MW-18	10.53'	0.0111 U	0.0111 U	0.012 U	1.85	1.89	2	N/A	0.07	N/A	0.000
MW-21	6.98'	0.121	0.216	0.27	0.983	1.77	2.3	N/A	0.0079	N/A	0.000
MW-23	X	N/A	N/A	0.17	N/A	N/A	0.0093 B	N/A	0.034	N/A	0.000
MW-25	11.3'	0.0537	0.0597	0.089	0.0053 U	0.0053 U	0.0055 B	N/A	0.022	N/A	0.000
<b>HABITAT AREA - CAMP</b>											
MW-15	X	0.0537	0.0597	0.17	0.0053 U	0.0053 U	0.61	N/A	0.066	N/A	0.000
<b>HABITAT AREA - North of Site</b>											
MW-1	5.85'	0.0282	0.0289	0.03	0.0053 U	0.0053 U	0.0052 U	N/A	0.011	N/A	0.000
MW-14	6.09'	0.0111 U	0.0111 U	0.012 U	0.0113	0.0084 B	0.0099 B	N/A	0.084	N/A	0.000

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**TABLE 11**  
**USS LEAD-SLRE**  
**GROUNDWATER DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Units (mg/L; Mercury in ug/L)**

Screening Value		0.31		NA		3.8		31		2		
RISC-Default		0.1		NA		1.3		2		NA		
Habitat	Depth to Groundwater (feet below top of casing)	Chromium		Cobalt		Copper		Mercury		Nickel		
		2nd Quarter	July	July	2nd Quarter	July	July	July	2nd Quarter	2001	July	
<b>GROUND WATER</b>												
<b>HELDIE AREA - Wetland (South of CAMU)</b>												
MW-6	3.49'	N/A	0.0033 B	0.001 U	N/A	0.0052 B	0.0034 J	N/A	0.0028 B			
MW-9	10.21'	N/A	0.0015 U	0.0017 B	N/A	0.0035 B	0.00085 J	N/A	0.0035 B			
MW-10	10.35'	N/A	0.0015 U	0.0027 B	N/A	0.0027 B	0.0005 J	N/A	0.014			
MW-11	4.09'	N/A	0.0016 B	0.001 U	N/A	0.0019 B	0.0013 J	N/A	0.0019 U			
MW-12	3.45'	N/A	0.0015 U	0.001 U	N/A	0.0032 B	0.00077 J	N/A	0.0019 U			
<b>HELDIE AREA - Wetland (North and West of CAMU)</b>												
MW-2	not available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
MW-3	7.46'	N/A	0.0015 U	0.0052	N/A	0.0034 B	0.00073 J	N/A	0.0019 U			
MW-4	6.15'	N/A	0.0015 U	0.001 U	N/A	0.002 B	0.00033 B,J	N/A	0.0019 U			
MW-5	5.2'	N/A	0.0015 U	0.001 U	N/A	0.0024 B	0.00082 J	N/A	0.0019 U			
MW-7	4.05'	N/A	0.0015 U	0.001 U	N/A	0.0077 B	0.00059 J	N/A	0.0019 U			
MW-8	X	N/A	0.0015 U	0.0024 B	N/A	0.002 B	0.00063 J	N/A	0.0033 B			
MW-13	X	N/A	0.0021 B	0.001 U	N/A	0.0047 B	0.0044 J	N/A	0.0019 U			
MW-18	10.53'	N/A	0.0015 U	0.001 U	N/A	0.0016 U	0.0011 J	N/A	0.0019 U			
MW-21	6.98'	N/A	0.0015 U	0.001 U	N/A	0.0016 U	0.002 J	N/A	0.0019 U			
MW-23	X	N/A	0.0015 U	0.001 U	N/A	0.0046 B	0.0011 J	N/A	0.0019 U			
MW-25	11.3'	N/A	0.0015 U	0.0027 B	N/A	0.0031 B	0.0011 J	N/A	0.0014 B			
<b>HELDIE AREA - Dryland (CAMU)</b>												
MW-15	X	N/A	0.0015 U	0.001 U	N/A	0.0016 U	0.0025 J	N/A	0.0019 U			
<b>HELDIE AREA - North of Site</b>												
MW-1	5.85'	N/A	0.0015 U	0.001 U	N/A	0.003 B	0.00024 B,J	N/A	0.0019 U			
MW-14	6.09'	N/A	0.0015 U	0.001 U	N/A	0.0016 U	0.00034 B,J	N/A	0.0019 U			

**TABLE 11**  
**USS LEAD-SLRE**  
**GROUNDWATER DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Units (mg/L; Mercury in ug/L)**

**Bold** - Indicates an exceedance of the screening value

X - presents a data gap

All analytes measure in mg/L except mercury, which was measured in ug/L.

\*As reported by USS Lead, in 2001 Second and Third Quarterly Reports

MRFI Report, dated March 2004 – July 2003 Sampling Data

N/A = Sample either not analyzed or data were not found in the reports available for this SLRE

Data Qualifiers:

B= indicates analyte result between the instrument detection limit and contract required detection limit; This data qualifer was undefined by the facility for the July 2003 data from the MRI

J= estimated value

U= undetected at concentration listed

Screening Values:

RISC-Default = IDEM RISC Industrial Default Closure Level (January 2004)

MCL = Maximum Contaminant Level as reported in IDEM RISC Technical Guide (January 2004)

**TABLE 11**  
**USS LEAD-SLRE**  
**GROUNDWATER DATA COMPARED TO HUMAN HEALTH SCREENING CRITERIA**  
**Units (mg/L; Mercury in ug/L)**

Notes:

<u>Well</u>	<u>Depth to Groundwater (feet below top of casing)</u>	<u>Habitat</u>	<u>Well Location Description</u>
MW-1	5.85'	North of Site	North of Remediation Area C; represents offsite groundwater north of former site
MW-10	10.35'	Wetland (South of CAMU)	Immediately south of CAMU; represents discharge to low lying area
MW-11	4.09'	Wetland (South of CAMU)	Southern edge of site and adjacent to Calumet River; represents discharges to river
MW-12	3.45'	Wetland (South of CAMU)	Southern edge of site and adjacent to Calumet River; represents discharges to river
MW-13	x	Dune/Swale Area (north/west of CAMU)	Near western boundary
MW-14	6.09'	North of Site	North of Remediation Area C; represents offsite groundwater north of former site
MW-15	x	East of CAMU	Immediately adjacent to/outside of eastern edge of CAMU
MW-18	10.53'	Dune/Swale Area (north/west of CAMU)	Immediately west of CAMU; represents discharge to canal
MW-2	not available	Dune/Swale Area (north/west of CAMU)	reported as former well - adjacent to CAMU; represents groundwater discharge
MW-21	6.98'	Dune/Swale Area (north/west of CAMU)	Immediately north of CAMU and south of Remediation Area C; represents groundwater discharge
MW-23	x	Dune/Swale Area (north/west of CAMU)	Immediately adjacent to/outside of western edge of CAMU
MW-25	11.3'	Dune/Swale Area (north/west of CAMU)	Immediately adjacent to/outside of western edge of CAMU; represents groundwater discharge
MW-3	7.46'	Dune/Swale Area (north/west of CAMU)	North of Remediation Area B; represents groundwater discharge
MW-4	6.15'	Dune/Swale Area (north/west of CAMU)	East of former manufacture area; represents groundwater impacted by former site
MW-5	5.2'	Dune/Swale Area (north/west of CAMU)	South of Remediation Area B; represents groundwater discharging to dune/swale
MW-6	3.49'	Wetland (South of CAMU)	Adjacent to canal and Calumet River; represents discharge to canal and river
MW-7	4.05'	Dune/Swale Area (north/west of CAMU)	South of Removal Area 1; represents groundwater discharge to canal
MW-8	x	Dune/Swale Area (north/west of CAMU)	North/west of Canal
MW-9	10.21'	Wetland (South of CAMU)	Immediately south of CAMU; represents discharge to low lying area
SW-02-04	NA	Wetland (South of CAMU)	Collected from water in the Area A excavation
SW-02-05	NA	Dune/Swale Area (north/west of CAMU)	Collected from water in the Area A excavation
MRFI-SW-1	NA	Dune/Swale Area (north/west of CAMU)	Collected from water in the Area B excavation
MRFI-SW-2	NA	Dune/Swale Area (north/west of CAMU)	Collected from water in the Area B excavation
MRFI-SW-6	NA	Wetland (South of CAMU)	Collected from water in the Area A excavation
MRFI-SW-10	NA	Wetland (South of CAMU)	Collected from wetland excavation area
MRFI-SW-13	NA	Canal Area	Collected from canal
MRFI-SWD-1	NA	Dune/Swale Area (north/west of CAMU)	Duplicate of MRFI-SW-1